LII No. 5 MAY 1956 50 CENTS

CANADIAN GEOGRAPHICAL JOURNAL

THE CANADIAN GEOGRAPHICAL SOCIETY

OTTAWA, CANADA

The Society's ambition is to make itself a real force in advancing geographical knowledge, and in disseminating information on the geography, resources and people of Canada. In short, its aim is to make Canada better known to Canadians and to the rest of the world.

As one of its major activities in carrying out its purpose, the Society publishes a monthly magazine, the Canadian Geographical Journal, which is devoted to every phase of geography — historical, physical and economic — of Canada, of the British Commonwealth and of the other parts of the world. It is the intention to publish articles in this magazine that will be popular in character, easily read, well illustrated, and informative.

The Canadian Geographical Journal will be sent to each member of the Society in good standing. Membership in the Society is open to any one interested in geographical matters. The annual fee for membership is five dollars (Canadian currency).

The Society has no political or other sectional associations, and is responsible only to its members. All money received is used in producing the Canadian Geographical Journal and in carrying on such other activities for the advancement of geographical knowledge as funds of the Society may permit.

CANADIAN GEOGRAPHICAL JOURNAL

Published monthly by
THE CANADIAN GEOGRAPHICAL SOCIETY
Ottawa, Ontario
Editor - GORDON M. DALLYN

This magazine is dedicated to the presentation in authentic and popular form, with extensive illustrations, of the broad pattern of Canadian life and its industrial, physical, and cultural foundations.

The articles in this Journal are indexed in the *International Index to Periodicals* and in the *Canadian Index*.

The British standard of spelling is adopted substantially as used by the Government of Canada and taught in most Canadian schools, the precise authority being the Concise Oxford Dictionary, fourth edition, 1951.

Address all communications regarding change of address, non-delivery of Journal, etc., to the publication office, 1000 St. Antoine St., Montreal 3, Canada, giving old and new address. On all memberships, the expiry date will be printed on wrapper. This will constitute a receipt for subscription.

Membership dues of The Canadian Geographical Society, which include postpaid delivery of the Journal, are $5.00 per year in any country, payable at par in Ottawa. All remittances should be sent to Head Office.

Member Audit Bureau of Circulations

Head Office: 54 Park Ave., Ottawa 4
(Tel. CE. 6-7493)

SPECIAL REPRESENTATIVES:
Ontario and Quebec Advertising:
F. A. DALLYN
1000 St. Antoine St., Montreal 3
(Tel. UN. 6-5285)
21 King Street East, Toronto

Europe: S/L W. H. CORKILL, M.B.E.,
The Mead, West Dumpton Lane, Ramsgate, Kent, England.

CONTENTS

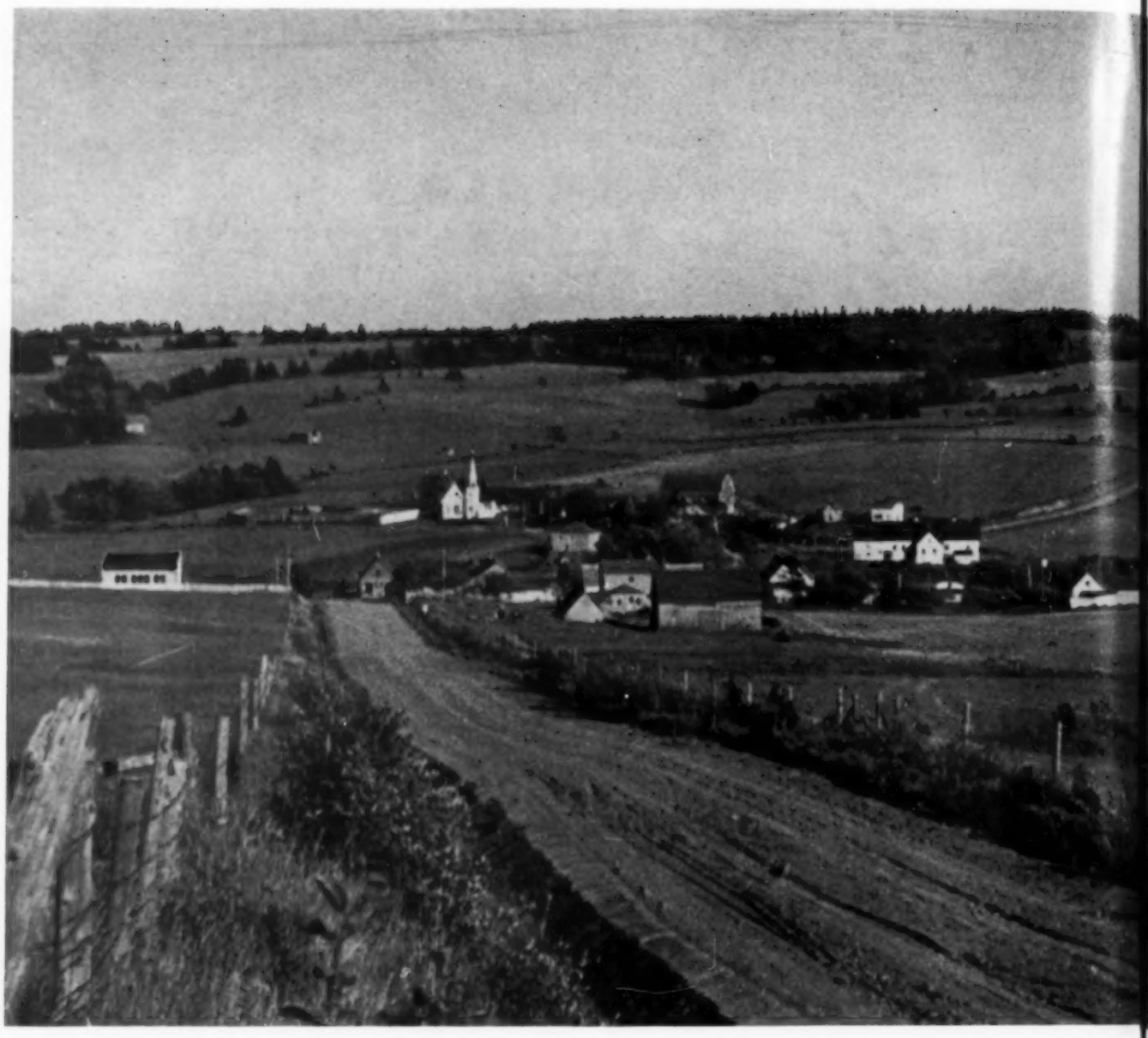
MAY, 1956 ✦ VOLUME LII ✦ NUMBER 5

COVER SUBJECT:—*A view of rural Prince Edward Island (See page 182)*
Photograph by G. M. Dallyn

✦

AUTHORIZED AS SECOND CLASS MAIL, POST OFFICE DEPARTMENT, OTTAWA

PRINTED IN CANADA



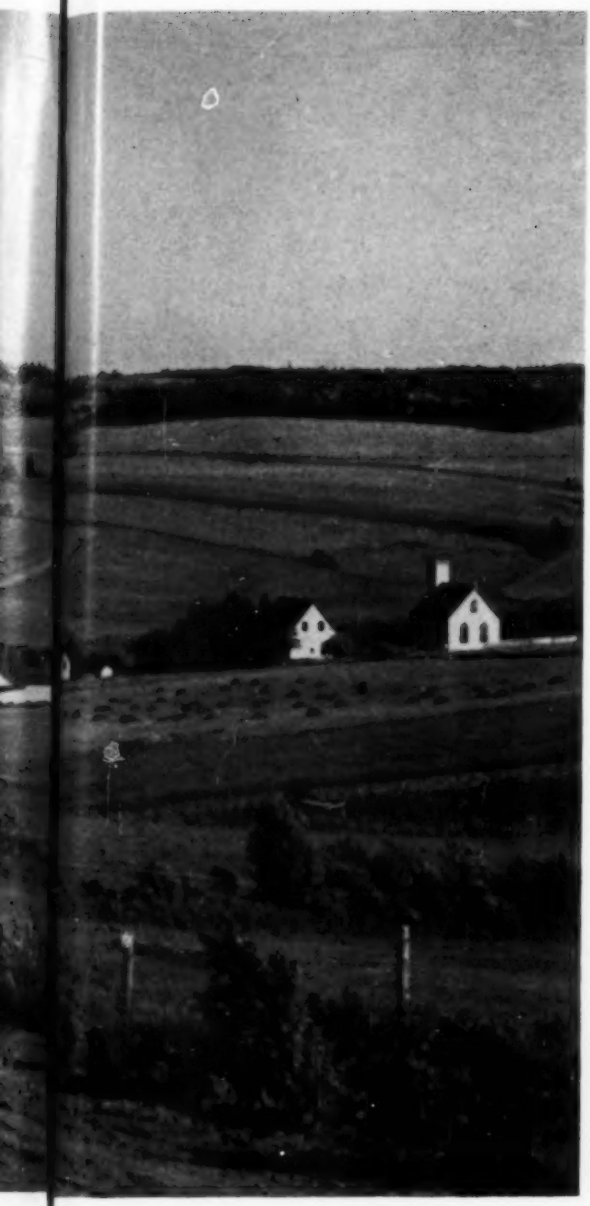
Prince Edward Island — The Story of Its Agriculture

by W. R. SHAW

"ALL THIS LAND is low and most beautiful it is possible to see, and full of beautiful trees and meadows." So recorded the intrepid explorer, Jacques Cartier, as he surveyed this pleasant domain in the sea, with its green, gentle slopes, red sandstone banks, and sparkling streams, on his first trip of discovery to the new world. The Indians, the original inhabitants, also gave it a quaint description: *Abegweit* — Cradled on the Waves, a rather fitting name for the crescent-shaped, deeply indented Island, 140 miles in length, and containing approximately one and one-quarter million acres.

Down through the years, under the process of settlement and farm development, "the Island", as it is more familiarly known, has been improved in beauty and fruitfulness. To-

At top:—Prince Edward Island—a land of well tilled acres and attractive villages nestling in the valleys. Agriculture is the basis of the province's economy. G. M. Dallyn



day it is not only an attractive, restful tourist retreat, but also presents a production record that stands in the very forefront of agricultural attainment. To the stranger this seems a land of happiness, of well tilled acres and carefully planned homesteads, usually nestling within encircling groves of maples, spruce, and fir. The completed picture, enriched by vegetation of vivid green, the deep red colour of the soil, and the sparkle of clean blue water, thrills the senses with its natural harmony and loveliness.

No province in Canada places a greater dependence on its agriculture. It is basic to the economy and welfare of all its people. Resources in the forms of minerals, forests, and water-power, and great industrial development are not found here. The wealth of the province is associated chiefly with the good earth, and although the soil is not naturally deep and fertile, it nevertheless responds quickly to progressive farm practices, and produces abundantly a variety of products of high quality.

Because of the absence of large consuming centres, and the necessity of transporting surplus products and needed supplies over long and costly transportation channels to and from distant points, the progressive Island farmers have employed their skill carefully and have placed on competitive markets products of

The soil of the Island, skilfully managed by its farmers, yields an abundance of crops of high quality. G. M. Dallyn

such excellence as to offset, to some extent, otherwise unfavourable conditions.

Predomination of Mixed Farming

The character of production is varied and fits well into a mixed farming policy, with dairying as the keystone; hogs, beef, poultry, and potatoes and turnips as cash crops. Adherence to a strong livestock policy has tended to maintain soil fertility, which in many areas suffered depletion through the extensive export of primary farm products during the early years of settlement.

Island soils need careful handling. The rock formation is chiefly of the Permian classification, and consists of a soft red sandstone with lesser colourings of grey and brown. Its broken-down strata form a top-soil which, broadly speaking, is of a sandy loam texture and an attractive red colour.

Through the co-operation of federal and provincial governments a Soil Laboratory was established at Charlottetown in 1943, and since that year an organized soil survey of the province has been made. The results of this survey, involving classifications and descriptions, the work of soil analyses, and general information disseminated on soils, have been of inestimable value to farm producers. Soil erosion has been a serious problem, and has lowered soil health and production in many areas. The information emanating from the Laboratory is, therefore, of great value to farm owners who, in increasing numbers, are utilizing its services.

The climate of the province is relatively moderate and is influenced by the proximity of the sea. True, the spring months tend to be lingering and tedious, but the summers are not uncomfortably hot, nor the winters exceedingly cold. The autumn months, the period of fruitfulness and harmony of colouring, are particularly pleasing. The mean annual temperature is about 42 degrees Fahrenheit.

The annual precipitation of 43 inches is usually well distributed. Under such conditions crops, given a reasonable chance, flourish luxuriantly and produce abundantly. Although the growing season is short, the hazard from frost in less than at many points on the mainland due, no doubt, to the influence of surrounding waters. Growth, in any event, is exceedingly vigorous and rapid.

The history of agriculture in Prince Edward Island begins with the French regime, extending roughly from 1715 to 1763. Approximately 11,000 acres of land, chiefly bordering the rivers and inlets, were cleared in this period. The main crops were wheat, peas, and some other products satisfying the needs of the settlers and the French garrisons in the neighbouring provinces. The livestock population in 1739 was only 433 cattle and 190 sheep.

Under British rule subsequent to 1763, the province was divided into sixty-seven lots and given to landlords, mostly absentee, under certain specific conditions of rental and settlement. In 1875, in accordance with the terms under which the province entered confederation, the government bought the land from the landlords and resold it to the settlers. While the landlord system was unsatisfactory, much land was cleared and considerable agricultural progress was made during this era.

Even in view of some very excellent ventures in livestock improvement and crop establishment, the practices of the pioneer and his descendants were not conducive to soil protection. Large quantities of oats, hay, wheat and potatoes were grown and exported with little

The substantial barn indicates the importance of livestock in the island's predominantly mixed farming. G. M. Dallyn

Like an enormous patchwork quilt, the geometric patterns of the fields stretch to the horizon.
C. A. L.

attempt made to restore the fertility of the soil. Only in comparatively recent times has the use of commercial fertilizer and ground limestone become common. Agricultural lime was produced in early years in kilns from rock imported from Nova Scotia, but the supply was very small. This soil corrective was supplemented with large quantities of oyster shell mud raised from the river beds during the winter months; but the total lime supply, nevertheless, was inadequate for all needs. In many cases swamp and marsh mud was used, and seaweed, rock weed and kelp were also very valuable fertilizers. These are now rarely used, although supplies are still available.

Within recent years the trends have changed. Very little grain or hay is now shipped out, although the trade to Newfoundland absorbs some of the latter product. As a result of improved nutritional practices in the livestock field and an increased population of swine and poultry, more feed is required now than the province is able to produce.

During the period in which the Federal Freight Assistance Policy was in operation (October 1941 to 31 December 1955) over 524,600 tons of feed grains and millfeeds were imported into the province. This may be divided as follows: wheat, 128,198 tons; oats, 88,726 tons; barley, 147,248 tons; mill feeds, 152,741 tons; other grains 7,689 tons. In addition large amounts of proteins and mixtures have been imported. It would be safe to say that, if all amounts were converted into bushels, upwards of two million bushels annually have been purchased to supplement domestic supplies. This direct change in practice should tend to correct some of the former errors in soil conservation.

Large supplies of commercial fertilizers are now used, and provide an important supplement to barn-yard manure. The extent of commercial fertilizer utilization ranges from 40,000 to over 60,000 tons annually, with the bulk devoted to potato production. In addition the importation of ground limestone under a subsidized policy amounts to about 30,000 tons annually.

Progressive farm practice has led to the extensive use of machinery. G. M. Dallyn

Land Uses

The following table presents some very interesting figures on land uses over a number of years:

	1881	*1911*	*1931*	*1951*
Total Land Area	1,397,760 acres	1,397,760 acres	1,397,760 acres	1,397,760 acres
Area in Farms	1,126,653 "	1,202,354 "	1,191,202 "	1,095,304 "
Improved Land	596,731 "	769,140 "	765,772 "	645,795 "
Under Crops	451,468 "	489,944 "	497,114 "	426,210 "
Size of Farm (average)	82.7 "	85.2 "	92.6 "	108.1 "
Total No. Farms	13,629	14,113	12,865	10,137
Percentage of Total Population on Farms	—	—	63.0	47.6

These figures show a reduction in the area of occupied farms, improved land, number of farms, area under crops, and a decided lowering in farm population. There is an increase in farm size, however, but this does not cancel out reductions. No doubt land was originally cleared that should have been left in forest. Some progress has been made toward a constructive reforestation system. In many cases, however, excellent farm homesteads are unoccupied. Shortage of labour, the attractive wages offered in Central Canada, and lack of economic security, coupled with high costs of operation in a mechanical age, are developing in the agriculture of the province a problem of serious proportions. Many abandoned farms offer excellent opportunities for settlement, and a satisfactory occupation for those whose roots are deep in the soil, and who are willing to apply themselves to farm life.

Dairying is the keystone of Prince Edward Island's agricultural economy. There are about 125,000 cattle in the province. N.F.B.

The next table indicates trends in production, and shows decided changes in farm planning:

PRODUCTION TRENDS*

	1910		*1920*		*1940*		*1954*	
	acres	*bushels*	*acres*	*bushels*	*acres*	*bushels*	*acres*	*bushels*
Wheat	26,000	522,000	36,000	625,000	10,000	165,000	3,300	79,000
Oats	184,000	6,201,000	175,000	6,038,000	145,000	4,868,000	97,600	3,806,000
Barley	6,000	169,000	6,000	164,000	9,000	252,000	3,800	118,000
Mixed grains	15,000	597,000	19,000	906,000	37,000	1,270,000	78,700	3,148,000
Buckwheat	4,000	93,000	4,000	88,000	4,000	66,000	—	—
Potatoes	34,000	6,762,000 *cwt.*	36,000	4,528,000 *cwt.*	37,000	7,400,000 *cwt.*	40,500	10,125,000 *cwt.*
Turnips, mangels, etc.	8,000	2,194,000 *tons*	12,000	3,198,000 *tons*	11,000	2,430,000 *tons*	6,500	1,680,000 *tons*
Hay and clover	240,000	388,000	238,000	428,000	226,000	294,000	204,000	398,000

In early days substantial areas of flax, peas, beans, and even tobacco were grown. Wheat was produced on practically every farm, and flour mills did a thriving trade. With the ready availability of western feed, wheat and flour, coupled with difficulties attendant on wheat growing, greater reliance has been placed on imported materials and on the growing of mixed grains which provide higher yields for livestock feed. Greater emphasis on corn, grass silage, and definitely improved treatments of pasture and hay are among the new developments. In view of the moist, cool climate favourable to grassland farming and the growing of root crops, the present practice has undoubted merit. Improved varieties and new techniques in production are contributing to expanded yields of farm crops more suitable to a progressive farm policy.

**Figures from Crops Section, Agricultural Division, Dominion Bureau of Statistics.*

An abundant crop means heavy work for the Island's horses. The residents of the province are keenly appreciative of quality in animals, especially horses. Many excellent sires have been imported to improve the stock, and the draught-horse breeds have not been neglected. Through different crossings there resulted a horse of distinctive type that became known as the Island breed. Today mechanical power is taking the place of horse-power on farms, but there are still some excellent draught stallions.

N.F.B.

Draught horses lined up for inspection by judges at an Island horse-show.

P.E.I. Travel Bureau

Livestock

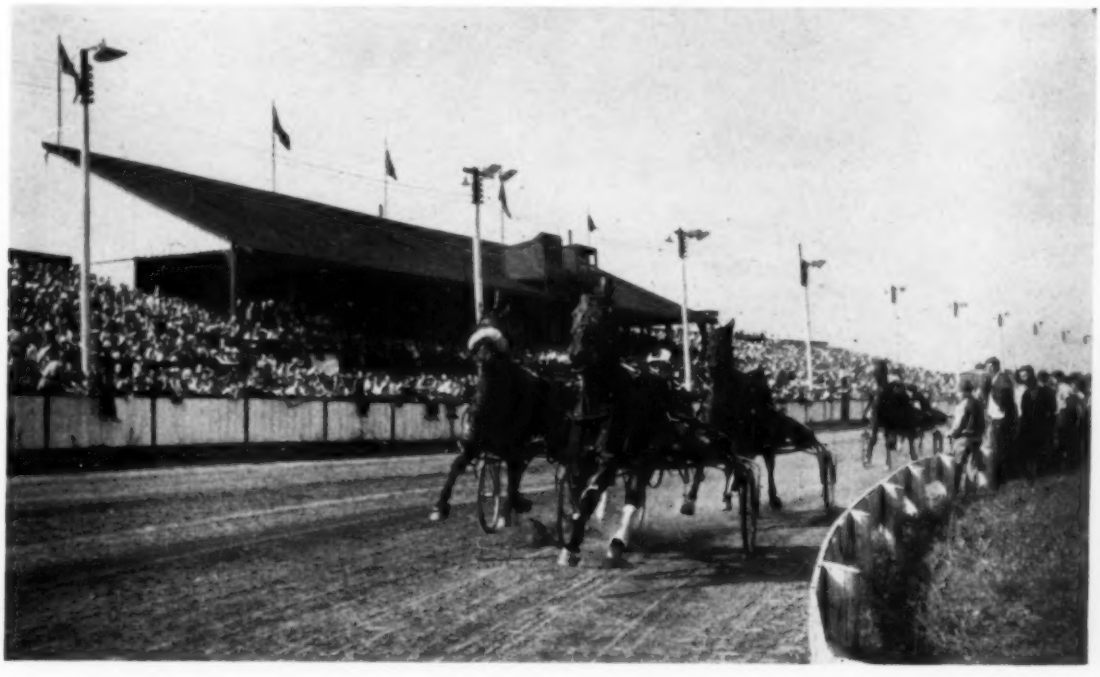
The founding of a strong livestock industry has been a prominent feature of this policy. From early days frequent importations of richly bred animals have made a favourable impact on the industry. Insistence upon stock of high quality and widespread use of constructive promotional policies has led to the establishment of flocks and herds that have won international reputations.

Horses

Horse-breeding has always been strongly influenced by the infusion of the blood of richly bred stallions. Importations were made to the province from the Old Country in the early 'eighties. In the draught class a horse that possibly left the greatest imprint on breeding was the stallion *Barrister* of Shire and Clydesdale blood. From the heyday of draught-horse production, sires (chiefly of the Clydesdale breed) were imported and left their imprint on draught progeny. The stallions, *Crown Rights*, *Craigenflower*, *Ballaret*, and others of choice strains contributed to improvement of heavy horses. However, fanciers of other breeds were not idle. Excellent imports of Percheron, Belgian, hackney, coach, standard-bred, and thoroughbred stallions received generous patronage, and through different crosses left a type of horse of substance and style that became famous as the Island horse, and attracted buyers from widespread points to the province. Under such conditions horses became an important factor in farm revenue. In 1891 the horse population of the province, now 16,000, was 37,392. The development of mechanical power, however, has almost eliminated the heavy breeds, although some excellent draught stallions are still standing for service.

If mechanical power has driven out the heavy horse, the same cannot be said of standard-bred horses. Islanders are race fans, and family groups congregate at the race centres to watch the heats held under the floodlights on the excellent Island tracks. Many farmers own race-horses, and many breed them from some of the choicest strains in North America. Early importations of such stallions as *Saladin* and *Flying Frenchman*, and the crossing of thoroughbred and standard-bred animals had excellent results. Subsequent grading with *Black Pilot*, *Parkland*, and *Alright*, and sires of *Peter the Great*, *Axworthy*, the *Todds*, and others of famous strains, enriched the blood of Island racing stock, and nourished that unbounded horse enthusiasm that brings a sparkle to the eyes of the typical Islander. Island horses sell well in the province, elsewhere in Canada, and even in parts of the United States. There are a large number of registered mares and stallions in the province, and undoubtedly this branch of horse production, backed by a strong horse-lovers' sentiment, is bound to remain.

After the First World War saddle-horses received much publicity and enthusiasts formed a Saddle and Riding Club. Thoroughbred sires and dams were imported, and for a time it



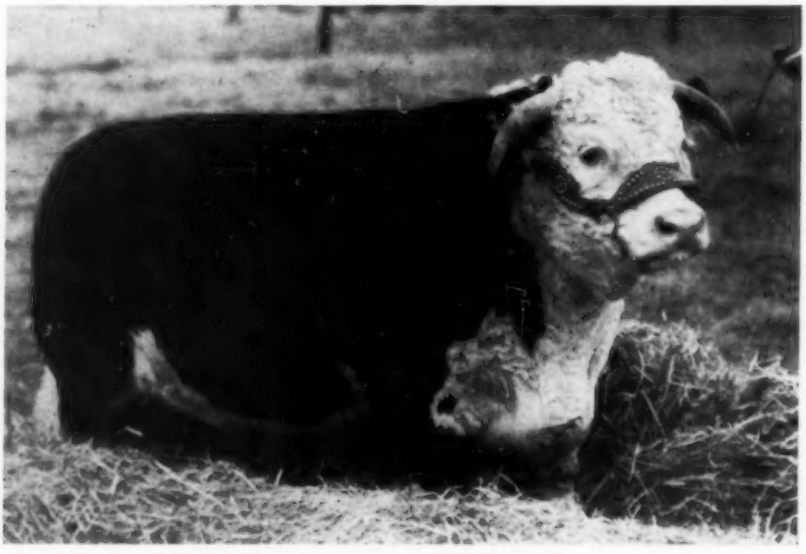
Huge crowds watch the sulky races at Charlottetown's fair grounds. N.F.B.

A handsome herd comes home for milking. The Holstein breed is first in importance in the province. N. F. B.

appeared that this venture would develop considerable economic importance. The years of depression, and the later outbreak of war, however, proved disastrous. But the revival of the project is not beyond the realm of justified speculation.

Cattle

The present cattle population of the province is 125,000 of which about 46,500 are used for dairy purposes. The standing of the breeds in order of importance is as follows: Holstein, Ayrshire, Jersey, and Guernsey. While dairy



A Hereford bull. This animal was champion several times at the Prince Edward Island Exhibition and the Maritime Winter Fair. J. E. Rose

production has always been a strong factor in farm economy, beef-breeding, chiefly because of the labour shortage, is expanding rapidly, and the use of beef sires in average herds is increasing. The Shorthorn and Hereford breeds are mainly used for this purpose, although Aberdeen Angus, and Red Polls are also crossed.

An Annual Fat Stock Show and Sale, promoted by beef producers, has met with remarkable success. It is questionable if the top price, or the average price at these sales, has been surpassed in any similar event in Eastern Canada. Since Maritime Canada is short of beef products, the future holds inviting prospects for beef producers who emphasize a grassland farm policy.

Some of the finest herds of dairy cattle on the continent are in the province, and have won laurels at the big continental shows. Select breeding stock has been imported — Ayrshires from Scotland, Jerseys from Jersey Island, and all breeds from the best Canadian and United States sources. The utmost discrimination has been applied in selection, and both males and females of special quality have been secured. The showing of registered cattle at the 1955 Provincial Exhibition — 1,000 strong — gave an indication of the high standards prevalent in a large number of Island herds.

Practically all breeds are promoted by aggressive breed associations, and financial support is provided by the provincial government through a mutually agreed policy of extension. This aid may be applied to the cost of importation of outstanding sires, or through a subsidized sire premium policy which involves the grading and approval of bulls at the time they are offered for community service and an annual inspection and approval thereafter. Artificial insemination, begun only a year ago, is now common throughout the province.

Bovine health has always been on a high level. Practically no brucellosis exists in Island herds. Tests of cattle for export have indicated a remarkable freedom from this serious affliction. Last year a province-wide test for Bangs disease was commenced. The survey of one county and a portion of another has been almost completed, and an almost negligible incidence of the disease has been found. Vaccination of calves has begun, chiefly those in registered herds, but also some in top-grade herds.

The province was the first in Canada to completely adopt the Restricted Area Policy for the eradication of bovine tuberculosis. In the first test in 1925, out of 94,772 cattle tested only .59 per cent were found infected, a remarkable record of animal health. Subsequent tests were conducted on a province-wide scale in 1929, 1935, 1942, and 1947, and the sixth was started in 1955. In two of these general tests as few as eleven to sixteen animals have been removed out of the total cattle population — an almost clear bill of health. Naturally tuberculosis in swine is correspondingly low. This fine record has placed the Island herds on a basis of high economic efficiency, made their export demand strong, and reassured citizens and tourists

A veteran Ayrshire sire and an acknowledged leader in his breed. He is one of the few preferential three-star Ayrshires in Canada.
Barter's Film Lab

regarding the condition of Island dairy products.

Hogs

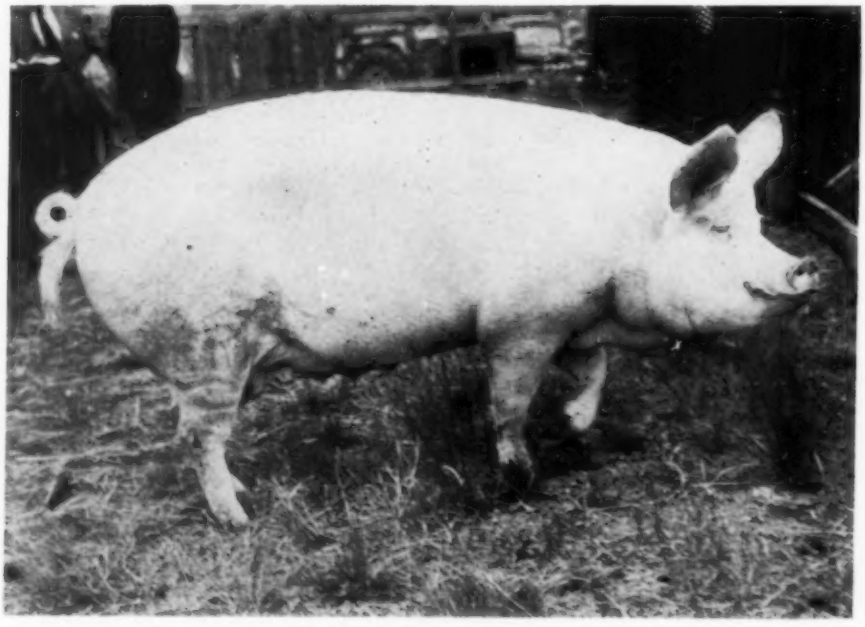
One of the most spectacular developments in the livestock history of Canada is associated with the Island swine industry. This improvement in a comparatively short period has raised the industry from a position of mediocrity to the very forefront in the world's swine-breeding.

The hog has always been closely linked with farm progress, but before grading came into effect hog types were as varied as the colours in Jacob's coat. Practically all breeds and variations were found on Island farms. As one observant writer said: "They were a heterogeneous, motley assemblage, variegated in colour and diversified in character, representing all ages, sexes and conditions, from the lineal descendants of the high-toned Chesters and Berkshires to the villainous progeny of the razor-backed clam digger of the North Shore." Wartime demands during the First World War led to an increase in the quality of production. Then in 1922 the producers adopted the practice of marketing by grade. From that time forward the industry rapidly improved. Payment for quality directed the producers' attention to better breeding and feeding principles. The old system of marketing hogs during a short period in the fall and early winter with little regard for type or weight and selling at rummage sale levels changed overnight.

Co-operative marketing came with grading. By 1922 both were operating with satisfactory results. Pig clubs were formed in that year. In 1923 breeding stock was shipped to distant points in Canada and the United States, and a carload was exhibited at the Royal Winter Fair in Toronto. Importations of breeding stock were also made, and the results were closely recorded. In 1926 over 6,000 hogs were marketed through clubs, and in 1927 a Maritime Marketing Board was organized to take care of selling. At least twenty Island shipping clubs forwarded their hogs to market through this service. At a later date a provincial selling agency was formed, but this organization was later disbanded. In the meantime, hog shows, bacon hog competitions, public hog sales, and other influential promotional features were strongly supported and did much to further swine interests.

Gradually, unsuitable types and breeds were eliminated and breeders concentrated their efforts on one type and one breed — namely, the improved bacon-type Yorkshire. Exhibitions eliminated all other breeds from their prize lists. Since then practically no other breeds of hogs have been found on Prince Edward Island.

In 1934 a Hog Testing Station was established at Charlottetown by the federal Department of Agriculture. Later all boars sold for breeding purposes were required to be out of dams qualifying in Advanced Registry. At the same time a boar premium policy was inaugurated, through which generous subsidies have been provided at the time of placement, and annually on approved inspection reports. Marketing on the basis of rail grade also came into effect about this time. These three factors were of tremendous influence in improving



One of the best brood sows. Today Island-bred swine are among the finest obtainable. Barter's Film Lab

hog quality. Rigid application of constructive and intelligent practices in the industry by breeders and their leaders have been responsible for the final emergence of the industry into a position of dominance.

Commercial records from inspected packing plants are the best evidence of the progress that has been made. The following figures show that the proportion of Island hogs graded "A" is about twice the Canada average.

Percentage of Total Hog Carcasses Graded

Year	*Grade A P.E.I.*	*Grade A Canada*
1941	35.1	31.5
1944	41.1	28.3
1947	48.9	31.6
1950	51.6	32.2
1953	51.4	27.3
1954	53.6	25.9

In Advanced Registry the records are even more startling. Computations shown below are based on data for the calendar year 1953 presented in an Advanced Registry report issued in April 1954 by the Production Service, Canada Department of Agriculture. The figures are based on the results of record-of-performance tests and show the number of sows falling within the various categories for the Province of Prince Edward Island and for all the other provinces.

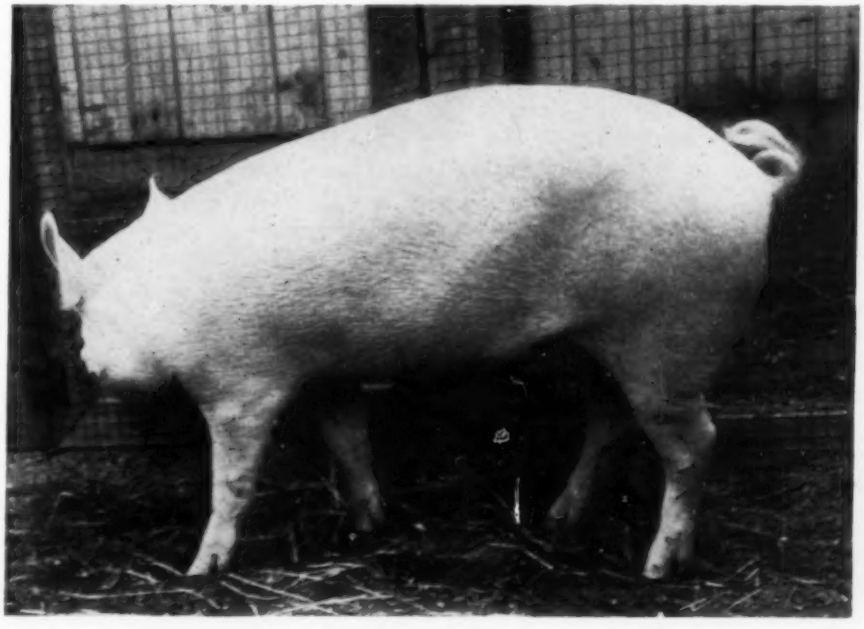
Score	*P.E.I.*	*All other provinces*
90 and over	9	7
85 to 89	25	27
80 to 84	25	52
75 to 79	11	89
70 to 74	12	74
65 to 69	2	61
60 to 64	1	38
Total hogs tested	85	348

Out of a total of 85 sows under test in Prince Edward Island and 348 in all other provinces the following comparisons are significant:

Qualifying sows scoring		
85 and over	34	34
75 to 84	36	141
Sows failing to qualify		
74 and under	15	173
Total hogs tested	85	348

These impressive records are only a part of the story. In the process of improvement any signs of inferior qualities are noted and plans are promptly made for elimination. Breeding boars are watched carefully and if weaknesses are discerned in conformation or any other way the offending animals or strains are removed. From this impressive development, based chiefly upon available provincial hog resources, has evolved a breeding stock now known as the Island type, which is eagerly sought after. Sales have been made in every province of Canada and most of the northern United States. So great has this demand become that Island hog producers (there are about 200 now in Advanced Registry) are finding it difficult to meet the increasing number of orders. Island hogs have created excellent impressions at the best national shows, winning at the Royal Winter Fair in 1949, 1950 and 1952 the highest award for a Wiltshire side, the Brethour Trophy. In 1952 the first eleven awards were won by them in this competition.

The annual swine population is about 150,000 with from 80,000 to 100,000 sent to inspected commercial plants.



A champion Yorkshire hog. The percentage of Grade A hogs bred in the Island is highest in the nation.
Barter's Film Lab

Island cattle breeders are very particular about the sires of their herds. Barter's Film Lab

The Pillar of Agricultural Progress—Dairying

The dairy cow has been called the keystone of the arch of agriculture. She is the greatest producer in this field, feeding humanity on one hand, and building up soil fertility on the other. This fact has not received, in many instances, the recognition it merits. Fortunately, Island farmers have centred their attention to a very great extent on dairying. From early days when butter and cheese were made on the farms and sold to merchants and trade vessels for export, the value of the dairy cow has been emphasized. Dairy organizations were formed previous to 1890 for cheese manufacture, but it was not until 1891 when Dr. James W. Robertson was sent to the province by the Dominion Department of Agriculture that any real progress was made in establishing dairy factories. A dairy station was first located at New Perth, and in the eight years following numerous factories were built at several points. In 1903 there were forty-three cheese factories and eight creameries operating. Cheese was sold in Chicago, London, Liverpool and Canadian centres. In 1900, 4,431,000 pounds of cheese were made and 572,726 pounds of butter. In 1916 the first pasteurizer was put into use at the Tryon Creamery, and after this date butter production increased rapidly. In 1930 there were twenty-two creameries and eighteen cheese factories operating. By 1954, however, cheese production had declined to 913,658 pounds, while that of butter had risen to 6,125,257 pounds. Today cheese is manufactured only on a small scale. The modern trend is toward larger centralized plants, and within the past year or two an independent plant at Charlottetown has expanded to serve a large territory and produce a wider range of products including butter, evaporated milk, milk powder, ice cream, and others. At the same time a large co-operative creamery, absorbing six formerly independent plants, has been established at Summerside. It processes butter and cheese chiefly. In addition there are ten other co-operative dairy concerns operating on a smaller scale.

At the head of the dairy industry is the

provincial Dairymen's Association, which carries on an educational campaign and public relations service in the interests of Island dairy products. Each butter plant attends to its own marketing, and the bulk of cheese is sold through a central agency.

A check test for fat content and inspection of milk and cream is made by the Department of Agriculture. Grading is also taken care of, as well as dairy plant inspection. Strict sanitary regulations from the producer's barn to consumer level are rigidly enforced. The ultimate product, be it butter, cheese, or whole or manufactured milk, is of very high quality and sanitary excellence. Milk plants pay producers on the basis of a government test.

Markets for dairy products are chiefly in adjacent Maritime Provinces. During recent years a large quantity of butter has been handled by the federal Agricultural Products Board.

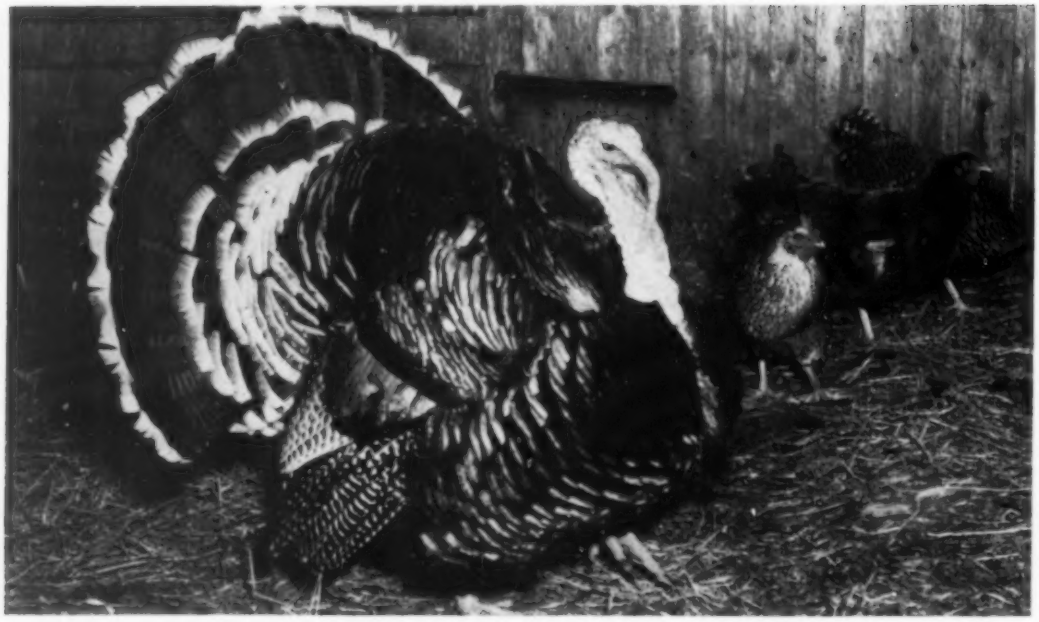
Sheep

Sheep raising, once very important on almost every farm, has declined seriously. Dairying, potato growing, fencing, and the dog menace have combined to discourage it. Nevertheless, there has been a tendency in recent years to re-establish sheep raising. The sheep and lamb population, now about 40,000, was 166,496 in 1881. Types and breeds have now changed in accordance with the demand for better quality lamb, and with recognition of the obvious defects in some of the older breeds. The present program is being concentrated upon crosses of the Down breeds with Cheviots, Border, and North Country breeds, with some infusion of Leicester and other crosses. The trend is toward marketing by rail grade. The production of carcasses of desirable weight and top quality, coupled with an established reputation for tastiness and flavour in Island lamb, should provide consumers with a product of unrivalled excellence.

A provincial Sheep Breeders' Association promotes improved sheep breeding practices, imports breeding stock, and handles the Island wool crop for the Canadian Co-operative Wool Growers Limited. A ram premium policy receives support from the federal and provin-

The crossing of breeds is producing flocks of better quality than in the past. These four Island sheep won first prizes at the Maritime Winter Fair in Amherst, Nova Scotia.

Charlottetown Public Relations Dept.



Poultry play an important part in provincial agriculture. In the past few years the number of domestic birds has doubled.
P.E.I. Travel Bureau

cial governments. All sheep are automatically insured against slaughter by dogs by the provincial government without cost to the producer.

Poultry

The old speckled hen has disappeared from Island farms, and a new poultry industry has emerged. The poultry population has doubled within recent years and now stands at about 1,000,000 birds of different kinds and ages. The record of improvement goes back a goodly number of years to the establishment of Egg Circles and centralized marketing in 1913. Selling by grade was again responsible for improvement, and Island eggs became popular because of their excellence. At one time there were over fifty Egg Circles sending the product from local centres to a big central grading and selling agency at Charlottetown. Unfortunately, this fine system was allowed to disintegrate. In its place independent grading stations have been formed, each with its own marketing controls and its own graders. These are directed under inspection, but there is some difficulty in maintaining uniformity of quality. Nevertheless, the industry continues to give a good account of itself, and by improved methods of selection and flock control, as well as strict adherence to grading standards and storage requirements, the product placed on the market is gaining recognition.

At present there are sixty-two registered egg grading stations operating. A flock approval policy provides selected flocks that supply hatcheries with eggs that produce strong healthy chicks. The government offers subsidies for brooder-house construction and the purchase of males qualifying in Record of Production to head approved flocks.

While there has been some diversion of attention to broiling and frying fowl, Island roasting chicken still retains its well-merited reputation. That the quality of the roasting fowl is high may be indicated by the fact that entries of finished poultry at the Royal Winter Fair in 1953 and 1954 won the grand championships over all poultry exhibits and were also keen contestants for this honour in 1955.

The economic value of the poultry industry has been placed at $2,000,000 annually. The production of eggs in 1954 amounted to about 4,000,000 dozen. Recent years have brought new influences to bear on the industry. With markets developing near at hand, poultry men who recognize new and changing conditions should find in poultry raising a profitable side-line, or a rewarding main specialization.

The average farm flock contains about 100 laying pullets, but a number of farms have raised this to about 5,000 birds.

There are twelve hatcheries operating in the province, with an output of over 800,000 chicks. Approximately 42,000 turkeys were hatched in 1955. Five plants process canned poultry. In addition there are five processing stations and killing stations.

Potatoes

From the days when the early settlers planted the first seed among the stumps of their small clearings this vegetable has been a major source of profit in Island agriculture. During the sailing vessel period huge quantities of "Old Island Blues" were exported to an eager market in the Maritimes and the United States. It was not until 1918 that any real improvement in varieties and selection took place. Investigations with the emphasis upon improving seed commenced about that year, and quantities of seed were sent to United States potato-growing areas on trial. A recognition of the superiority of this seed shaped the course of subsequent potato culture.

Poultry breeding is far more selective than it used to be, consequently flocks show marked improvement today. P.E.I. Travel Bureau

Under the impetus of organized effort combining the work of government investigators and inspectors and the P.E.I. Potato Growers Association formed in 1920, the latest methods in seed potato culture, disease control, and grading for a discriminating market were undertaken. For some years it was almost impossible to supply the eager export demand for seed. Under this influence seed acreage expanded rapidly. From 1920 to 1955 over 708,000 acres of seed averaging over 20,000 acres annually have been entered for certification in the province, and a large percentage has passed the rigid certification requirements.

With new methods and influences producers have paid meticulous care to every detail tending to produce a potato of unquestionable merit. It is because of many influences that Island potatoes, seed, and table stock, possess the reputation that has been theirs down through the years. As evidence of the care that is taken during the processes of production and marketing, the following factors might be noted:

By a provincial statute potato growers are required to plant potatoes, either for seed or table stock use, that are not lower than the seed grades "certified" or "foundation".

A further Act dealing with the control of plant diseases provides rigid controls under the direction of a Potato Industry Promotion Committee with wide powers and funds with which to indemnify producers under certain conditions.

Producers voluntarily decided at an early date to levy the industry to provide funds for the purpose of disease control and extension of markets, and to provide the necessary publicity and other services. This levy was on the basis of one cent for each 100 pounds of potatoes exported. Because of lack of legal support this was later changed to a licence charge and the collection of the fees was made by a Potato Marketing Board. This Board marketed the crop of 1953 with good results,

Top quality seed potatoes come from the province's fields. About half of Canada's potato seed for both domestic and export use is grown in Prince Edward Island.

but since that time has confined its activities to general matters associated with the industry. Publicity campaigns drawing attention to the excellence of Island potatoes have been undertaken through the Potato Marketing Board and the Potato Industry Committee by the distribution of bulletins in both English and Spanish, and by extensive advertising and personal contacts with foreign marketing and government officials.

The trophy for the Grand Champion exhibitor of seed potatoes at the Royal Winter Fair, Toronto. Last year it was won by an Island seed-grower.
Canada Pictures Ltd.

Rigid inspection services are provided and growers co-operate fully in observing regulations concerning quality. Inspection of seed involves at least three field examinations and one bin and one package inspection at time of shipment. For table potatoes the controls are almost as complete.

From time to time a complete survey and inspection for troublesome diseases is made of all farms and potato supplies. In this way the danger of infection is kept to a minimum. Inasmuch as up to 70 per cent of the acreage is planted to seed and is under seed inspection while the balance must be planted with "certified" or "foundation" seed, the task of control is not particularly difficult. The acreage of potatoes does not fluctuate materially from year to year. For the past forty-five years the average has been 37,000 acres. The average production for the past fifty years has been over 5,000,000 bushels; but owing to improved methods of production, favourable seasons, large fertilizer applications, and heavier yielding varieties, the average for the past decade has almost reached 10,000,000 bushels.

About 50 per cent of the seed crop is planted under the tuber unit system — that is, the sets

from each tuber are planted in consecutive order thus enabling the removal of the full unit if disease is discovered.

Approximately 50 per cent of Canada's potato seed for both domestic and export use is grown on the Island. The total annual seed exports from Prince Edward Island to foreign countries over a thirty-two year period averaged about 1,200,000 bushels. In 1949 this reached a high of 3,670,886 bushels. The bulk of the exports are sold on the Atlantic seaboard from Maine to Florida, but seed is sold in thirty of the forty-eight States as far west as Colorado. In addition, sales are made in Bermuda, Cuba, Venezuela, British West Indies, South Africa, Israel, Brazil, Uruguay, Argentina, Mexico, Panama, and Puerto Rico. All the provinces of Canada are also buyers. Sample shipments have been made to Italy, where a splendid record was established. With the return of normal currency conditions it is anticipated that overseas trade will expand considerably.

Fruits and Vegetables

It has been stated that Island fruits have a special tastiness, and Island vegetables a special crispness and flavour. This is particularly true of turnips which have a splendid reputation on the Northern Atlantic markets. Unfortunately, the turnip marketing system is without constructive direction, and as a result the product is influenced by a hit-and-miss demand and return. Considerable interest is now developing in the field of improved vegetable varieties, and with new techniques in packaging and processing, and quick-freeze methods, there seems to be a bright future for vegetable growers. The growing and storing of cucumbers, has proven to be an attractive side-line. From two to six million pounds of excellent pickling cucumbers have been handled yearly.

Little attention has been paid to tree fruits in recent years, except by a few growers who have established its possibilities. At one time there was a considerable production of apples and also of other fruits. At the turn of the century the census gives the following figures: apples 202,910 trees, peaches 163, pears 1,962, plums 27,480, cherries 70,431, other trees 57,924. The yield was 184,487 bushels of tree fruits, and of small fruits 150,590 pints. About 1920 over 8,000 farms reported having small orchards.

Unsuitable varieties and other conditions eventually discouraged tree fruit production. In the last few years, however, some new orchards have been set out. At the present time great interest centres in strawberries: about 500 acres will be bearing them in 1956. New marketing, processing, and packaging plans are responsible, and there is a tendency toward the growing of other small fruits as well. The quantity of strawberries exported during the past year was in the vicinity of 800,000 quarts. Three strawberry exchanges assist in assembling and marketing. Export to desirable markets has been conducted to some extent by air. Wild fruits are a decided asset, and considerable effort is now being devoted to improving blueberry and cranberry barrens. The production of the former is about 700,000 pounds, and of the latter upwards of 200,000 pounds. There is a ready market for all classes of fruits grown in the province.

In 1898 apples from Prince Edward Island were shipped to Great Britain and were well received there. In 1896 a Fruit Growers Association was formed and an active interest was

Strawberries grow in abundance and the acreage devoted to them is increasing. All types of fruit grown on the Island find a ready market.
Richard Harrington

taken in fruit promotion. Eight experimental orchards were established, and pruning, spraying, and orchard culture received widespread attention. The work of the recently appointed provincial horticulturist will do much to help re-establish fruit growing and encourage the use of progressive orchard practices.

Organization

The province's Department of Agriculture was organized in 1901 with a Commissioner and a secretary as its staff. Previous to that date a Royal Agricultural Society, formed in 1845, performed very fine service in the promotion of exhibitions, agricultural competitions, livestock shows, ploughing matches, seed banks, importation of improved livestock, and other important matters. In 1863 the government appointed a Board of Commissioners who subsequently directed agricultural policy. A Provincial Exhibition was established late in the 1860s, and grants were provided for agricultural fairs in each of the counties. The features of the present day not only include the now famous Provincial Exhibition and Old Home Week with its great harness-racing meet, but also a number of local fairs and combined ploughing matches and agricultural shows which have met with popular approval.

Expansion in agriculture has taken place, and today the needs of farm people are under the direction of qualified field men and there are subsidized organizational policies. These policies are chiefly associated with livestock extension, control of weeds and plant diseases, importation of ground limestone, animal disease control, and many other basic problems. The comparatively recent establishment of an over-all subsidized veterinary policy for the province involves the services of five strategically placed practitioners and supervisory personnel in a splendidly equipped central laboratory, and provides an important service to livestock producers. Free diagnoses and post-mortem examinations for livestock and poultry are conducted at this institution. Vocational education and training for farm youth is given at a well equipped Vocational School at Charlottetown.

Working in close co-operation with provincial authorities are the Dominion Experimental Farms Service and the Science Service laboratories. In no province is there a greater measure of co-ordinated effort between federal and provincial authorities in the promotion of farm welfare.

In non-government fields practically all the livestock breeds have their own promotional associations. In addition there are fruit and potato growers' organizations. A provincial

Cereal plots at the Experimental Farm, near Charlottetown. Federal and provincial authorities co-operate closely to promote farm welfare. Special attention is given to control of weeds and plant diseases.
N.F.B.

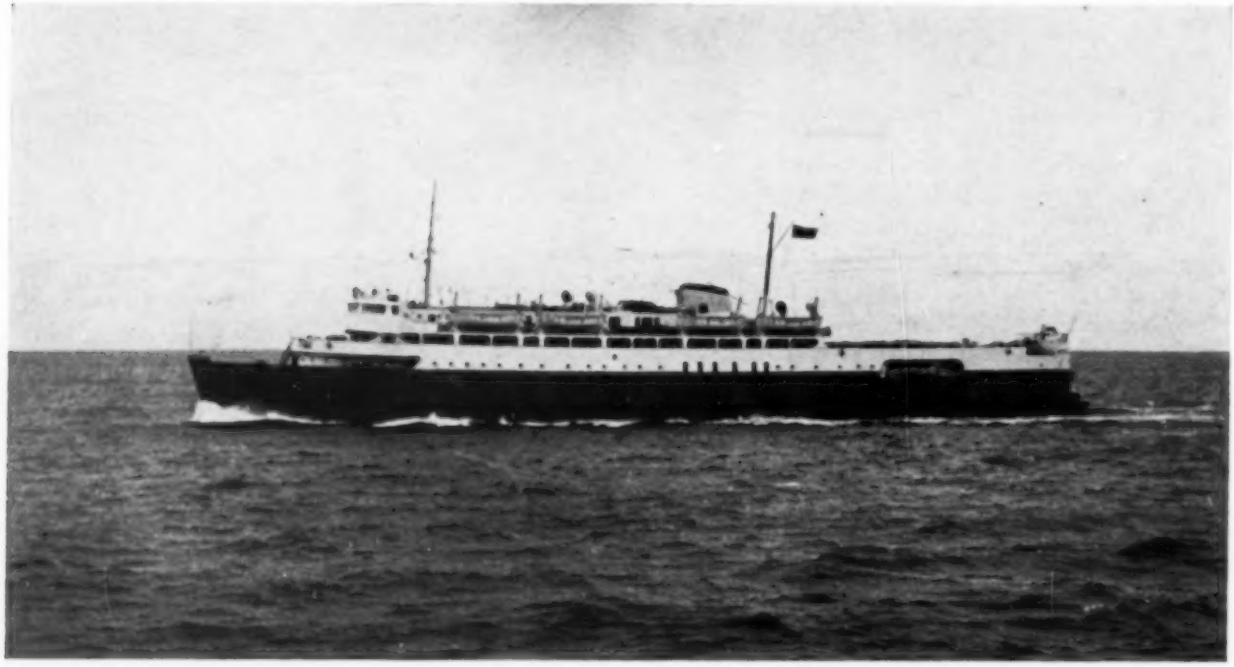
The Experimental Farm near Charlottetown. It was established in 1909 with an original land area of 65.8 acres. The farm now consists of 427 acres, twenty of which are under trees. Experimental work is conducted in a wide range of agricultural projects of particular interest to Island farmers. The work includes hundreds of plot investigations, soil analyses, long-term rotations, cereal and forage crops, potatoes and roots, horticulture, animal husbandry, and studies of poultry and bees.

Federation of Agriculture performs a valuable service in promoting farm interests. An Agriculture Council gathers together all agricultural officials in yearly conferences to examine farm problems, co-ordinate action, and recommend policy. A wide activity in the co-operative field has led to developments in marketing and merchandising. There are about forty co-operative enterprises, including those for fishery products, now functioning. Sixteen of these are co-operative stores. In the background are the Credit Unions, numbering fifty-eight. At the top level are the Central Credit Union League and the Co-operative Union offices.

In recent years advanced marketing legislation, federal and provincial, has placed authority in the hands of the primary producers, and as a result advanced methods of marketing procedure have been undertaken. There will undoubtedly be a definite expansion and change in marketing procedure in the next few years. It may be safely stated that the farm producers have now discovered their own power to do themselves services. They have recognized their own needs; they know that the solution of their many problems is mainly in their own hands. Through trial and error very often, they have co-ordinated their activities in the educational, social and economic spheres. While often discouraged, they are continuing to advance and to promote interests closely associated with their own and the province's welfare.

Women's Work

The Women's Institute movement was organized in 1913, and since that time has expanded until now the province is served by over 300 branches. This service is under the direction of the Minister of Agriculture who provides supervisors and field staff to care for a wide range of rural activity involving community problems, junior and adult clubs of various kinds, health and welfare, education,



The motor vessel Abegweit, *carrying passengers, automobiles and trains from Borden, Prince Edward Island to Cape Tormentine, New Brunswick, is the main transportation link between the Island and mainland.* G. M. Dallyn

social problems, handicraft, cooking, culture, and many other matters. Contacts on the community, provincial, and national levels, along with the sincere co-operation of the members, have influenced public policy and greatly improved public welfare. In addition a well equipped and administered van carries to rural housewives information about modern methods concerned with homemaking.

Junior Work

Junior club work was established in 1921 and has since expanded into the 4-H Club movement. A broad study of a practical, citizenship type has been undertaken, and a splendid rural leadership has grown into the adult life of the province. In addition to the 4-H Club, a Junior Farmers' Organization has been promoted. There is a total of 125 junior clubs of all kinds in the province. These are divided as follows: calf clubs 26; poultry clubs 6; garden clubs 9; sewing clubs 80; Junior Farmers 4.

Subsequent to the annual competitions in each club centre, a two-day Junior Youth Fair is held at the Provincial Exhibition grounds, Charlottetown, in September. This event at which are displayed livestock, and field, homemaking and garden exhibits includes a public speaking competition, athletic program, and other features. It affords an excellent example in the field of juvenile education.

Markets

Markets are of more than ordinary concern to Island farm producers. Agriculture is the main industry, and any abrupt changes in farm revenues immediately affect the economic standards of every citizen. Farm products are mostly in surplus supply, and must seek sales at distant points although transportation costs are high and in competition with products more favourably situated.

The matter of quality and its effect on demand is obviously an important consideration. In this respect the farm producer has performed a meritorious task. Reference need only be made again to Island potatoes, hogs, dairy cattle, turnips, and other products. Superior quality has helped to overcome some of the disadvantages.

The tale of marketing is too long a story to

be related here. At one time the demand for Island products was chiefly overseas, and the sailing vessel nosing its way into rivers and inlets carried away vast quantities of them to markets beyond the rim of the ocean. Frequently vessels, the product of Island shipyards, were sold with their cargoes. Regular subsidized steamship lines equipped with cold storage facilities plied between Island ports and points along the Atlantic seaboard of North America and on the coast of the Old Country. At the turn of the century an excellent market existed in Britain. In three voyages in 1898 the following cargo was reported: sheep and lambs 3,204, cattle 181, horses 12, eggs 1,981 cases, poultry 6 tons, apples 508 barrels, oats 12,000 bushels, canned meats 2,747 cases, cheese 6,873 boxes, butter 2,084 boxes, hay 1,000 tons, bacon and other hog products 225,000 pounds. Smaller quantities of lobsters, oysters, vegetables and other products were also shipped. Great numbers of Island sheep and lambs and quantities of foodstuffs were also sent to American ports.

Now, because of trade restrictions and other factors, the pattern has changed. The bulk of Island products is sold in other Maritime Provinces which need them, although eggs are forwarded in large quantities to Montreal. Potatoes and turnips must seek markets in other provinces and the United States.

New centres in Labrador and Newfoundland, Maritimes military camps, and possibly the development of the St. Lawrence Seaway, as well as the expanding Maritime population, should favourably affect the demand for Island products. Aside from these factors altogether, however, modern methods of marketing control and transportation will play a vital part in the distribution system. Prince Edward Island, noted for the high quality of its products and strategically situated at the edge of a vast consuming area and on the rim of the ocean trade routes, with the coming of more efficient steamship facilities and the development of air freight routes, some day to the great advantage of its farm people may be supplying food products to many countries.

Wood Islands harbour is expected to increase in importance in coming years. There is a ferry service from here to Caribou, Nova Scotia. As ports and transportation facilities improve, the Island will find a still wider market for its excellent farm produce. G. M. Dallyn

The stern-wheeler Tutshi *(Indian for "deep, dark water") was built in Carcross in the Yukon in 1917, but it still churns the waters of Tagish Lake and beautiful West Taku Arm. Today, instead of prospectors and adventurers, it brings tourists to Ben-My-Chree.*

Wilderness Run to Ben-My-Chree

by ADELAIDE LEITCH

Photographs by the author

THE EARLY GOLD-SEEKERS who came trudging north to the Yukon over the Trail of '98, or who poled and paddled their way down West Taku Arm in northern British Columbia, had a warm spot in their hearts for the wilderness homestead of Ben-My-Chree.

They tramped out of the ruggedness of the Canadian north at 60 degrees north latitude, and came suddenly upon a smiling valley where carefully tended delphiniums rose ten feet high beside a log cabin, and pansies five inches across grew on the silt of glaciers and twenty-two hours a day of summer sunlight.

Today, the old couple who built the homestead and who made over eight hundred varieties of plants and flowers bloom within sight of the icy whiteness of Llewellyn Glacier, are gone. But the valley is still probably the most unique show-place in the Canadian north, and the ancient little stern-wheeler *Tutshi* with its gingerbread on the wheel-house and its old orange paddle-wheel, still thrashes its way over Tagish Lake into West Taku Arm, on one of the country's few remaining wilderness runs.

Today, this little boat of another era brings only tourists through a land where the wilder-

ness comes all the way down to the shore of one of the loveliest water-ways of the Canadian north. Lake Tagish is a long, narrow body of water set between mountains. Its northern end, reached from Carcross, is in the Yukon, but its course extends southward across the B.C. boundary. Where West Taku Arm begins, it becomes narrower and the mountains rise more steeply. At the end of the Arm is the *Tutshi*'s one port-of-call, Ben-My-Chree. Down the same valley is Llewellyn Glacier, stretching toward the Pacific Ocean where, fifty miles further on, it is briefly visible to passing ships as Alaska's Taku Glacier.

The story of Ben-My-Chree is — or was — a love story. This is the homestead that Otto Partridge from the Isle of Man built for the bride who followed him into the northern wilderness. It was for her that he named it in his native Manx, *Ben-My-Chree*, Girl of my Heart.

Leaving Mrs. Partridge in Victoria, Otto and a partner had first come into the north in 1897. The next year she followed him into this land which few other white women had seen, travelling over the treacherous Trail of '98 on foot. For a time the couple operated a small sawmill near Carcross, but at every opportunity they explored the surrounding waters. In 1900, towing along the houseboat on which they lived, they moved down Tagish Lake into West Taku Arm. There they set up the equipment for a small mine. When a sudden landslide wiped out all their mining gear, they discovered that it was not gold alone that kept them in the north. They moved ashore and here Otto Partridge built his homestead.

The couple established a tradition of hospitality in their new home. The door of Ben-My-Chree was never closed, and a steady stream of prospectors, trappers, adventurers, and steamboat captains came through the log parlour. With them Otto Partridge exchanged tales of the north, and for them Mrs. Partridge always had a glass of her own mild rhubarb wine.

Today the *Tutshi* still calls regularly at Ben-My-Chree. Although the old couple now lie side by side in the graveyard at Whitehorse, their home is maintained in its original state by the White Pass and Yukon Railway, the company that pioneered transportation in the area.

Tourists, following in the footsteps of the prospectors, settlers, and others who once walked down the same ship's gang-plank, find the door of Ben-My-Chree open yet and some of the same hospitality within — a glass of home-made rhubarb wine.

Flowers bloom everywhere at Ben-My-Chree, wilderness homestead in northern British Columbia. But above the English-type gardens stand mountains touched with snow, and scarcely fifteen miles away is icy Llewellyn Glacier.

When the raking is done some distance off shore or where the tide is strong, a young oarsman can help by keeping the dory over the rocks on which the moss is growing. Bollinger

The Sea-Rakers

Irish Moss Provides the Basis of a New Industry

by MARION G. ROGERS

Photographs by the author except where credited

UNTIL RECENTLY the coming of summer in Nova Scotia meant slack and off-season times for lobster fishermen in great areas where the lobster season closes in the early summer.

During the last few years a new summer industry—the harvesting of Irish moss—has developed and grown fast in this and other areas, providing work and greatly needed dollars for the fisher-folk. They rake it in from the sea, some earning as much as $50 a week.

Just what is Irish moss? Briefly, it is neither moss nor Irish—but a seaweed containing a gelose substance which, when extracted and processed, is used to suspend solids in liquids and for dozens of other purposes. An overworked though good example of the former is the suspension of chocolate in chocolate milk; in ink it keeps carbon particles in suspension.

Sometimes called Carrageen moss, its scientific name is *Chondrus crispus*. It is found in enormous quantities on parts of the Canadian Atlantic coast and some parts of the United States coast.

It grows in clumps on the rocky bottom only, and grows best where the tide is strong. Several "leaves" form from a small disc or holdfast about three-eights of an inch in diameter, which is firmly attached to the rock.* Each leaf is flat-

*The plant does not bear true leaves. The leaf is an organ of plants of higher order. These so-called "leaves" are actually upright shoots.

tened and branches many times; the whole plant forms a clump. As the leaves vary in width and branching frequency, clumps may be dense or loose. The leaves do not bear bladders as do other weeds that sometimes grow with Irish moss.

The plant grows abundantly in exposed situations, from near low-tide level to a depth of at least fifteen feet in some places. Its occurrence farther down is little known. The Irish moss found in sheltered inlets is often too soiled by silt or impure with fine growths to be of much value. It is never found on sand or mud, unless washed there by storms.

In 1948 the Nova Scotia Research Foundation engaged Miss Constance I. MacFarlane, internationally known algologist, to take charge of a detailed survey of the seaweeds in the waters surrounding the province—kinds, quantity, and quality. By boat and with the aid of photography, both aerial and underwater, the shores have been and are being searched for the best beds. The effects of changing seasonal conditions are also recorded.

A war-time need is mainly reponsible for this activity. Supplies of Irish moss used to come from Europe, especially France and the British Isles. In World War Two, when these supplies were cut off and the few known areas in the United States could not produce enough to satisfy the demand, the possibility of finding the moss in Canadian waters was explored. The Foundation's extensive investigation of seaweeds grew out of this search.

Constance MacFarlane, algologist and marine botanist, examines specimens of Irish moss.

The best methods of harvesting Irish moss were sought, best for both plants and men, and

A heavily grown bed of Irish moss, partly visible at low tide in St. Margaret's Bay. The light uneven growth in the foreground is the moss.

Irish moss baled for shipping is loaded on a truck. Most of the moss harvested in the Maritime Provinces is shipped to the United States to be processed. N.F.B.

studies were made of its longevity and regeneration. Working along the shores (that includes the outer islands and groups of islands), Miss MacFarlane has been studying and recording the plant's growth, re-growth after various methods of harvesting, and the quantity and quality of its re-growth. Commencing in early June, the "at sea" work goes on every day that the weather permits. It may be pursued at any hour of the day, even before dawn, for the tide is master of scientists and rakers alike.

The earliest reference to the use of Irish moss was in about 1835, though shore folk say the first settlers knew its properties and housewives made Carrageen pudding by cooking it in milk. The result was something like our blancmange or cornstarch pudding. Today the extractives from Irish moss are used for their thickening, gelling, emulsifying, and film-forming properties. More than fifty uses are claimed for them in the pharmaceutical, cosmetic, food, and industrial fields.

The prices of the moss have soared and dropped surprisingly. A war-time Canadian bulletin in the early 1940s reported: "Pre-war in the United States dried bleached moss was eight to twelve cents per pound, prices have risen to 25 to 30 cents at present." In the summer of 1947 wet moss was bought in Nova Scotia for approximately one cent a pound, and dried moss for six to eight cents a pound. In recent years the price has been somewhat higher.

In 1954 Canada exported $553,016 in "Sea Grasses." The majority of that dollar value was Irish moss. A new industry has come of age. Its future promises well for the province and her sea-rakers.

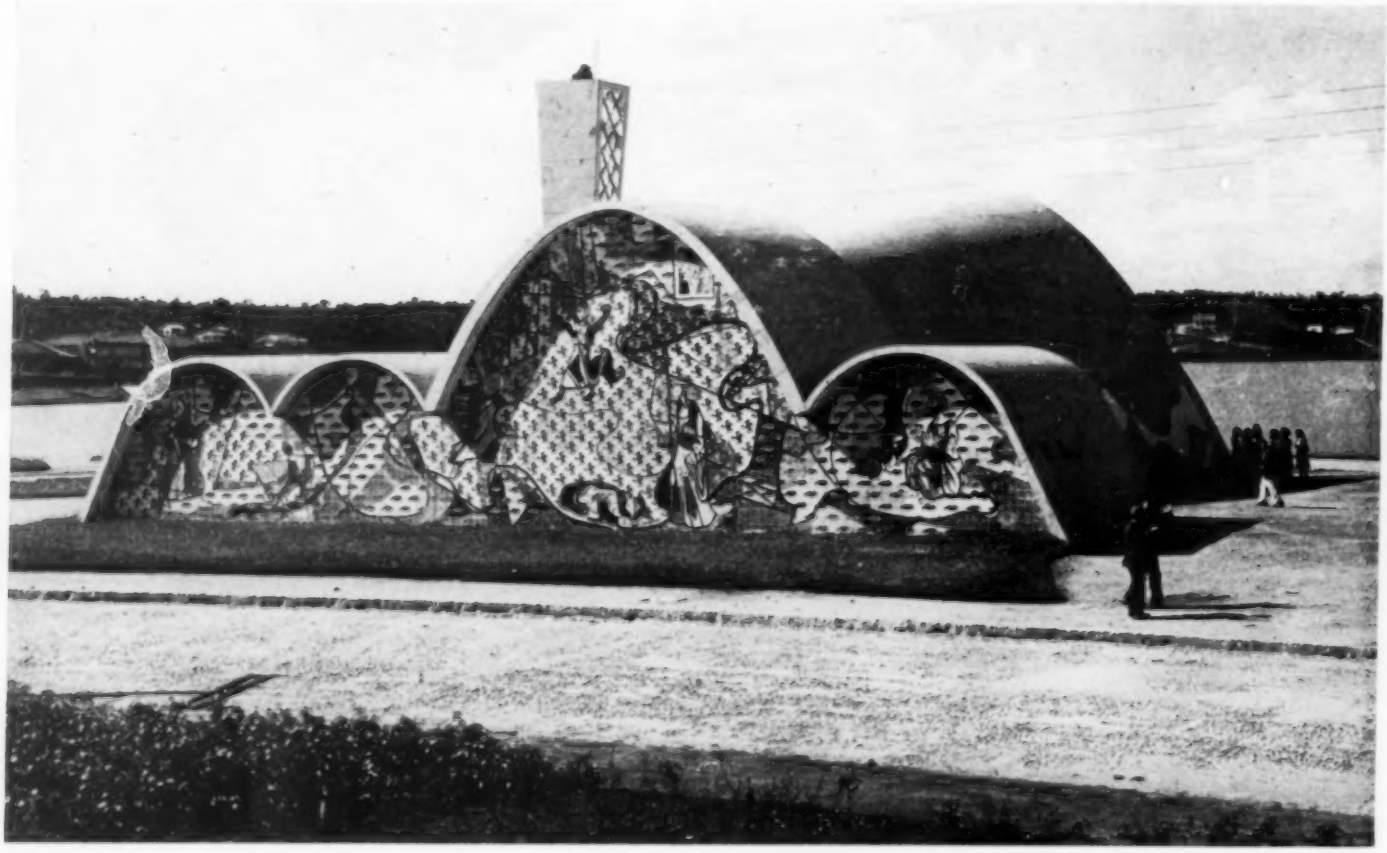
The harvest of Irish moss, spread to dry on land, must be turned regularly so that the drying is thorough, for moisture in bales causes quick deterioration. The dried moss is worth more than the wet. It takes about four pounds of drained wet moss to produce one pound of dried moss. Bollinger

The Old and New in Brazil

Brazilian Government photographs

Tall steel and concrete buildings notch the skyline of Belo Horizonte, capital of Minas Gerais State, Brazil. It is a planned community which has succeeded beyond the dreams of its planners.

A controversial piece of architecture in Belo Horizonte, Pampulha's Church. Its design is such a radical departure from the traditional that the Bishop of Belo Horizonte refused to recognize it as a church.



Primitive transportation in Brazil's Ceara State. Donkeys carry heavy loads of carnauba palm leaves, which are used for thatch. The tree's fibre is used for hats, mats and hammocks.

A strange sight with which to be confronted in an age of swift power-run vessels. Barges on the great Sao Francisco River of Brazil have carved prows with satyrical, religious or animal motifs.

ADDRESS TO THE MEMBERS OF THE SOCIETY AT THE TWENTY-SEVENTH ANNUAL GENERAL MEETING*

by L. W. BROCKINGTON

In thanking you for your invitation and your presence, may I be allowed to say good evening to those of my fellow citizens, who are graciously allowing me to speak to them in their homes tonight.

I am going to try (though, I am afraid, with wholly inadequate knowledge), to say something about this famous Geographical Society, which has given for many years an imaginative and unselfish service to the people of Canada. I speak in the hope that many of those who hear my voice tonight will take an abiding interest in the work and rally to the loyal support of this Society, which so greatly needs their help and so greatly deserves it.

One of Thomas Hardy's novels tells how a little village choir sang carols on Christmas Day. The choir was made up of those who followed their humble village trades. Amongst them was a shepherd. When the little choir sang *While Shepherds Watched Their Flocks by Night*, it is recorded that the shepherd blushed and hung his head as though they were proposing his health. If, therefore, there are those among you, who, like most modest men and women, feel that you are embarrassed by praise, you, too, may hang your heads, if you will. The radio audience will not be able to see your blushes.

I am afraid that in my ignorance of the science which has formed you into a learned Society and brings you together tonight, I am little better than Chesterton's non-geographic Englishman. When he was questioned about Virginia and Plymouth Rock, he said that all he knew was that "Virginia" was a good kind of tobacco and that "Plymouth Rock" was a fairly good strain of laying hen. He was not much better than a taximan who once drove me from the University of Indiana to Louisville. The taximan came from the Blue Mountains of Kentucky and had served overseas with the American Force. I asked him whether he had been in the Old Country. He said he thought that he had but he was not quite sure. "Where were you stationed?" I inquired. After some hesitation, he said, "Is there a part of England called Scotland?" I told him to repeat his question to the next Scotsman he met but to be sure to carry a six-shooter with him when he asked it.

Tonight, however, I recall, for my guidance, that famous English poem:

> "The art of Biography
> Is different from Geography
> Geography is about maps
> Biography is about chaps."

The new geography, as fostered by this Society, is about both. But maps never look like countries. And with that knowledge to guide me, I hope, that as I dredge what a famous Professor at Queen's once called that muskeg of mediocrity which I am pleased to call my mind, I may be able to find a few words to say about the work which you do and about those men and women of old, who utterly patient wended their way from the sowing to the reaping and laid the foundations of the greatness of our heritage.

Rudyard Kipling, whose philosophy of Empire and the white man's burden no longer commands the interest and praise with which it was once acclaimed, wrote a poem called *The Explorer*. In it he tells of one of that thin gray line before the pioneers, who, like the typical Canadian of our early days, stood sanguine-souled clear-cut against the broad horizon. These are some of the things which Kipling said, and I repeat them to you as a sort of a text upon which to base the rambling words with which I speak to you. The poet writes of the *EXPLORER*—the man who listened to the everlasting whisper telling that there was something hidden beyond the ranges, and

*Dr. Brockington's address was recorded by the Canadian Broadcasting Corporation and was broadcast over the national network later the same evening (13 March 1956).

how, undaunted and with unquenched hope, he went to find what was lost, prying and sampling and blazing his trail:

"Up along the hostile mountains, where the hair-poised snow-slide shivers—
Down and through the big fat marshes that the virgin ore-bed stains,
Till I heard the mile-wide mutterings of unimagined rivers,
And beyond the nameless timber saw illimitable plains!
Plotted sites of future cities, traced the easy grades between 'em;
Watched unharnessed rapids wasting fifty thousand head an hour;
Counted leagues of water-frontage through the axe-ripe woods that screen 'em—
Saw the plant to feed a people—up and waiting for the power!
Ores you'll find there; wood and cattle; water-transit sure and steady
(That should keep the railway-rates down), coal and iron at your doors.
God took care to hide that country till He judged His people ready,
Then He chose me for His Whisper, and I've found it, and it's yours!

I would like to say, at the outset, that in my humble opinion membership in the Canadian Geographical Society, (which costs $5.00), is open to everyone and entitles each subscriber to the excellent *Canadian Geographical Journal*, is one of the badges of a good citizen, while fellowship in the Society is a properly prized honour. It was founded some twenty-nine years ago. Its first President, who is still its Honorary President, is one of the really great citizens of this country, Dr. Charles Camsell. In my opinion, he has done more to spread a knowledge of Canada and its resources than any man living. He was for many years Deputy Minister of Natural Resources. He knows the wild and distant places of this country as few other men know them. The colouring on a hillside in one of the maps which accompanied one of his reports marked the first uranium deposit and turned the attention of prospectors and geologists to the great discoveries which are a part of our economic strength. You will find all this modestly set down in his enchanting book: *Son of the North*.

All the Presidents and all the members of the Committees who have guided this famous Society were and are like him busy and high-minded men. They have moulded for us all a brotherhood of men who work with complete unselfishness and without remuneration for the education and the economic well-being of every citizen in this country, however humble. They receive and have received no grant from any government. During the period of the Society's life they have established the *Canadian Geographical Journal*. They have encouraged the teaching of the study of what is really a new science, modern geography. When they have had the money, they have endowed scholarships. They have arranged lectures and have brought to Canada and from Canada to the schools and colleges of this country many eminent men of national and international fame. They have helped explorations. They have sponsored several documentary films. Sometimes, for lack of funds, they have had to suspend their work for brief periods but in the true spirit of Canada they have always had a heart above their misfortunes. Well over 5,000,000 pamphlets have been printed and distributed from the articles published in their magazine. These articles cover 153 different subjects and I wish that I had time to show their astonishing and stimulating variety by reading to you the titles. When the Canadian Geographical Society began its life there was, I believe, not a single professional geographer in Canada. Today there are over 300. The science of geography which they encourage in their faithful efforts is a comparatively new science in these days of air transport, radar, and swift change. All continental countries such as ours, are, in very truth, new found lands, and geography itself during the last few decades has become a new found art and a new found science.

I remember, when I was a boy at school, how scrappy and comparatively useless was the routine geography in which we learnt the names of rivers and capes and of capital cities and very little indeed about the men and women facing the problems of livelihood at home and abroad. Today, however, geography is a universal science. Like the great unifying art of music, which speaks to civilized mankind in a universal language of inspiration and

beauty, so geography touches the life of mankind in so many places. It links together many arts and many sciences. As places become less distant from each other—in time if not in space—so geography becomes of greater importance. It is a contribution not only to the knowledge and love of one's own land but to that reservoir of universal knowledge which can benefit all races of men. It teaches us and other groups of men and women what our resources are and where they are to be found. From it we learn about weather and climate, the problems of transport, the treasures of earth and water, the places best suited for migration and settlement and a happy life. With its aid we learn about *human* activity and gain an understanding not only of ourselves and our own land but of other men and other lands. Science in many of its aspects, economics in much of its significance, biology, botany, geology, even art in its infinite beauty are all a part of this new study. It has helped us to discover and to rediscover the land in which we live.

But while this new science of geography is helping to teach us all so much about ourselves and this broad, rich, lovely, shaggy land in which we live, it is doing something else to advance Canadian ideals and hopes. In this country, mercifully, we have come to believe that there is only one race which really matters, and, that is the human race. For we believe with the philosopher "that the good Lord has written one sentence of His thought upon the cradle of every race." And, so this nation stands in the world without any desire to dominate, without hatred of men or nations but only of evil things—with a love for what is clean and honest—a sanctuary of human brotherhood and loyalty to all that strengthens justice and honourably brings peace amongst the children of men.

Mankind is a social being and men of many races demand differing environments and climates and resources, and a knowledge of them for their progressive happiness. This Geographical Society is doing its best to advance that international knowledge and mutual help which underlie those demands. We are learning to realize the truth of the ancient wisdom that we are all citizens of one city—the world—and that chaos is the mother of us all. And in our search for human brotherhood we hold to the faith that the heavens lie on all lands and the sun shines on all peoples, that it is always morning somewhere in the world, that the clouds that darken us come from the earth and not the heavens, and that shadows only fall when the sun is shining.

Now, the Canadian Geographical Society, to judge by its publications and its teachings, emphasizes that the study of geography, perhaps more than any other subject, helps individuals to understand mankind as a whole. In Canada, as one of your admirable pamphlets tells us, we are all deeply interested in immigration, the development of resources, the conquest of floods, of droughts and frosts, the opening up of the limitless Northland, the expansion of industry, the growth of our cities, and the significance of Canada's strategic position, facing, as we do, the Arctic, the North Atlantic and the North Pacific Oceans. All these things can only be fitted into our own pattern when we know how population is distributed in other countries, when we learn of the success or failure of great human experiments in similar climates, and when we have some record of the difficulties and achievements in developing the northern lands of other nations. All civilized countries recognize those facts. And the studies that can establish them are only at their beginning. All true science is modest and its work, of course, is always at the beginning, for the horizons of true knowledge are ever receding. Knowledge *may* be proud, as it has been said, that it knows so much, but wisdom is always humble because it knows so little. And I often like to recall the great saying of Sir Isaac Newton, which he uttered at the end of a life of pure scientific devotion: "I do not know what I may appear to the world, but to myself I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me."

I have mentioned some of the practical things which the Society has helped to do. But

there are other things which they have done and will continue to do, which appeal to me, and, I am sure, to you. They keep ever green the romance of Canada and the memory of those undaunted men, who, like Kipling's *Explorer* first heard God's whisper. But if I speak of famous men, let us not forget the poet's words:

"Let us now praise famous men
Men of little showing
For their work continueth,
Yes their work continueth
Broad and deep continueth
Far beyond their knowing."

So many of our country's milestones are unlettered headstones beneath which lie unremembered men and women. It is but thirty-odd years ago since Rupert Brooke, writing home about our Canadian landscape, said that so much of it seemed to be awaiting its first explorer with its feeling of fresh loneliness, the air unbreathed and the earth untrodden. "And all things share this childlike loveliness, the grey whispering reeds, the pure blue of the sky, the birches and thin fir-trees that make up the Northern forests, even the brisk touch of the clear water as you dive."

What heroic deeds were done and what hardships overcome with indomitable courage when the first explorers of all times set their feet on the untrodden earth of this new world! What peals of bell ring in our remembrance at the recital of the name of Jacques Cartier, who, on the Gaspé Peninsula over 400 years ago, knelt before a 30-foot wooden cross, the first structure built by white men in Canada! On it were a crown and three *fleurs-de-lis* with the inscription "*Vive le Roy de France*". That spot where that cross was raised must be forever one of the sacred places of Canada. What a growing interest we take now in the memory of John and Sebastian Cabot, who found and founded Newfoundland. Every school boy knows the names of the chivalrous Champlain, La Salle, Roberval and La Vérendrye, who brought honour to the France of their origin and the Canada of their finding. I have always taken an interest, too, in the shadowy Englishman, Kelsey, who in the 1690s was the first white man in Saskatchewan and was the first also, if you remember, to see the prairies teeming with vast herds of buffalo. A few months ago there died in Calgary, lamented and honoured, my dear and gallant friend, Colonel Sanders. He was, I should think, one of the very last men of our days who in his boyhood had seen the plains darkened with the multitudes of grazing and stampeding bison. I took my grandson to visit my old friend two or three years ago. And I remember the look of wonder in the little boy's face as the beloved veteran showed him some of his Indian relics and told him the story of the great herds. I often like to recall Alexander Mackenzie, who at his journey's end painted on a rock on the shore of the Pacific far north of Vancouver Island these words so eloquent in their simplicity:

Alexander Mackenzie from Canada by land,
the 22nd of July,
One Thousand Seven Hundred and
Ninety-Three.

I can never forget David Thompson, otherwise Dafydd ap Thomas, a son of my motherland and of my mother's land, who amongst rough men and rough places, kept all the standards of cleanliness and Christian faith and honourable dealing, and deserves to be called one of the greatest geographers and surveyors of all time. Born into poverty and dying of starvation in Canada at the end of his eighty years of life, he never lost his love of this broad land. Nor, when I was travelling two years ago to the North Pole, could I help thinking of the lives and deaths of Franklin, Parry, Nares and Knight, and, not least, of Samuel Hearne, perhaps the greatest of them. In all our wild places there is still a living memory of brave men who launched forth into the deep unknown for the sake of generations unborn. There is no more romantic phrase in our language than "over the hills and far away" and no more poignant image than "the lost traveller's dream under the hill." And who can forget the thrilling lines in *The Ancient Mariner:*

"We were the first that ever burst
Into that silent sea."

There are still Canadian frontiers to conquer and far distant Canadian places to explore. I

hope the frontier will always remain with the lantern in the neighbourly window and the latch-string hanging loose on the neighbourly door, where sometimes it almost seems that the greater the distance between one house and the next the greater the kindliness and the greater the desire to share hardships in unity and helpfulness. In a very real sense everywhere is frontier:

"Hear the wind
Blow through the buffalo-grass,
Blow over wild-grape and brier.
This was frontier, and this,
And this, your house, was frontier.
There were footprints upon the hill
And men lie buried under,
Tamers of earth and rivers,
They died at the end of labor,
Forgotten is the name."

I have always thought that I was fortunate when the mintage of my own humble Canadian citizenship was stamped and sealed in the frontier Province of Alberta. I have regretted that so much of the history of its early days can never now be written or recorded by those who helped to make it. This Society will assist in seeing that things like that do not happen again. Amongst my friends many years ago was an old Englishman whose hair remained black until his eightieth year. He was the first Mounted Policeman to pitch his tent on what is now the site of the city of Calgary. When he and his company arrived, there was one white resident, a Jesuit Father ministering to the Indians. How often in the old days have I admired the finely chiselled face of the faithful priest as he rode as an honoured guest in a carriage in the stampede parade. I knew also the first white man who ever saw Lake Louise, which the vagrant poet saluted as "that web of laughter and the opal distillation of all the buds of all the spring" and beyond its spring flowers a glacier in the vast fields and peaks of eternal snow. Yes, surely, great things have been dared, determined and done by brave men in this land and let us hope that under God's providence there will always be the distance and the unattainable heights and the urge to conquer which draw our sons in quest of labour and adventure.

Shakespeare once wrote of England's "infinite riches in a little room." In Canada we have great riches in many mansions—an infinity of God's wonders. It has been my privilege to travel widely from coast to coast. I have seen the still reflections in those brightest of all mirrors, the diamond, sapphire and emerald lakes of Canada. I have seen the avalanche of apple blossom in the Annapolis Valley and the blush of the peach trees in the Niagara Peninsula and the hills and vales of the Okanagan. I have read the illuminated manuscript of the prairies and marvelled at the purple crocus cloak of their spring awakening. I have stood knee-deep in the wild flowers that flood the plains and foothills with their sky-lit waters. I have seen what my dear friend, Duncan Campbell Scott, described as "the haggard mountains keeping their nightly vigil, sentinel peaks guarding the land we love." I have, like you, welcomed the galaxy of the dogwood and the glorious banners of autumn's gay procession. I have heard what Lampman called,

"log-strewn rivers murmurous with mills,
some foam-filled rapid charging down its
rocks,
with iron roar of waters"

I have walked on the oldest rocks in the world in Manitoba. I have heard the primeval forest still murmuring with the pines and the hemlocks. I have looked down on the limitless tundra of the Arctic Circle and the beckoning immensities of its promise. Yes, and I have often seen great skies filled with crimson sunsets and all the delicate and changing beauties of sun and of snow. I have turned my eyes to Blomidon in the blue distance. I have gazed down from an aeroplane on the mighty mountains of Ellesmere Island and looked at "the terrible architecture of the most high God," the peaks and the pinnacles of eternal ice and the giant frozen walls, the mountain domes, all white forever that go up in the darkness of the long polar night, and the brilliance of the long Arctic days. I have seen the little spires of Quebec pointing to the heavens in adoration and everywhere the clean, happy little dwellings of home-loving and faithful people. Surely

no place on earth contains within its ordered space greater or more varied wonders of land and water, a more romantic history of orderly progress, or a richer fabric and fibre of men and women of many origins and races finding between our welcoming shores wider horizons of hope and happiness for themselves and their children.

Canada truly is a land that needs to be discovered and rediscovered. Yes, we are in very truth a new found land. Our widening horizons are still sanctified by the old tried virtues of brotherhood and faith. We live in an exciting country in the most exciting age, in a world forever new. Without vain glory, we can say, as Emerson said of the United States of America, that our land is at the cockcrow and the morning star.

In wishing you well in your devoted dedication to the welfare of our country and its people and to the remembrance of its romance and beauty, may I end with some memorable words written by John Ruskin:

> "The idea of self-denial for the sake of posterity, of practising present economy for the sake of debtors yet unborn, of planting forests that our descendants may live under their shade, or of raising cities for future nations to inhabit, never, I suppose, efficiently takes place among publicly recognized motives of exertion. Yet these are not the less our duties; nor is our part fitly sustained upon the earth, unless the range of our intended and deliberate usefulness include, not only the companions, but the successors, of our pilgrimage. God has lent us the earth for our life; it is a great entail. It belongs as much to those who are to come after us, and whose names are already written in the book of creation, as to us; and we have no right, by any thing that we do or neglect, to involve them in unnecessary penalties, or deprive them of benefits which it was in our power to bequeath."

I thank you for your patient listening and wish you well in your labour of love for Canada.

EDITOR'S NOTE-BOOK

W. R. Shaw (*Prince Edward Island—The Story of Its Agriculture*) was for many years the province's Deputy Minister of Agriculture. Although he is retired now and lives at Clyde River, he is kept very busy by requests for information and assistance and for articles on various aspects of the province's agriculture. His broad knowledge in this field and his experience as a farm journalist more than justify these requests.

* * *

Adelaide Leitch (*Wilderness Run to Ben-My-Chree*) contributes frequently to the *Journal;* consequently her work is well known to most readers. She has travelled from coast to coast in Canada recording her impressions with pen and camera.

* * *

Marion G. Rogers (*The Sea-Rakers*) is a freelance journalist who lives in Ottawa. After some years on the staff of a newspaper she became the Ottawa representative of a national magazine.

* * *

L. W. Brockington, C.M.G., Q.C., LL.D., D.C.L. (*Address to the Members of the Society at the Twenty-seventh Annual General Meeting*), one of the nation's most outstanding citizens has had a distinguished career in law and has made significant contributions in other fields which have gained him well merited recognition. His honorary positions ranged from the (honorary) presidency of the Canadian Classical Association to an honorary chieftainship in the Blackfeet and Sarcee Indian tribes. Dr. Brockington now is president of the Odeon Theatres (Canada) Limited. He is one of the finest public speakers on the continent. His voice has been heard over radio networks in Canada, England, the United States, Australia and New Zealand.

THE TRAVEL CORNER

Holiday for music-lovers. Mario Duschenes leads a class of recorder players at the Otter Lake Music Centre near Montreal.

Otter Lake Music Centre

The unusual Otter Lake Music Centre, which offers holidays with instruction in music, will be open for its fourth season 1-15 July. In order to provide more accommodation than was available last year, the Centre has moved to Round Lake Inn at Weir, Quebec, about sixty miles north-west of Montreal. Both amateur musicians and those who have had no experience in making music are invited to attend the session.

Every morning instruction is given in choral singing, recorder playing, music reading, madrigals, lieder, chamber music, theory and composition. There are also lessons in French and English conversation, for the Centre is bilingual. Afternoons usually are left free for sports which include tennis, mountain climbing and swimming. In the evenings members meet to perform in groups the music studied in the mornings.

The session will be directed by George Little of Montreal, who will also conduct the choral singing and music reading classes. Mario and Ellen Duschenes will give lessons in recorder playing. The chamber music groups will be conducted by Walter Joachim; those in theory and composition, by Jean Papineau-Couture. Jan Simons will teach lieder.

Guests may come for one or two weeks. Details about courses and fees may be obtained by writing to Otter Lake Music Centre, Box 195, Outremont, Montreal 8, Que.

Shakespeare in Connecticut

The American Shakespeare Festival Theatre will open in Stratford, Connecticut on 25 June for its second season. The plays to be presented are *King John* and *Measure for Measure*. It was announced just before this column went to press that a third play might be added to the bill and that it would probably be either *Romeo and Juliet* or *The Taming of the Shrew*. Performances will be given on Sundays as well as weekdays during the twelve-week season. Stratford is on the Housatonic River between Bridgeport and New Haven, about ninety minutes by car from New York City.

Council of Industrial Design Showroom

This spring in London a new Design Centre was opened for British industry. It is in Haymarket, not far from Piccadilly Circus, and it is the showroom of the Council of Industrial Design. There anyone who is interested may see a permanent exhibition of the best designed British products. Nothing is for sale, however information may be obtained about where to buy the various products. It is expected that the Centre will be visited by many overseas buyers and business men.

Those who are unaware of its existence may be interested to learn that in Ottawa there is a very similar Design Centre, containing a display of Canadian products of outstanding design. This summer it is to be moved from its present location at the corner of Albert and Elgin Streets to Rideau Street close to the Chateau Laurier Hotel.

Summer Courses in Italy

In a villa at Gargnano on Lake Garda the University of Milan will conduct special summer courses for foreign students from 19 August to 30 September. Basic courses in Italian culture and the Italian language will be given in French, English and German by professors of the university. There will be sixty lectures. There will also be advanced courses, consisting of six lectures apiece, on classic and medieval art in Italy,

(Continued on page IX)

By CNR, you start your holiday in a luxury hotel on wheels. The engineer does your driving, and there are courteous people to serve you.

Where do you think you're going ?

BOUND FOR THE EAST? HEADED WEST? No matter where in this wide and wonderful land you're going, by CNR you'll get there in comfort and in style.

YOU'LL EAT, SLEEP AND BE MERRY — In the new CNR Dinette you can have a hamburger and coffee if you're not in a full-course dinner mood. At night, you'll sleep like a kitten between soft white sheets. And always by train, there's the stimulation of meeting new people.

ALL THIS, FOR JUST A FEW CENTS A MILE — Before you decide how you're going to get there, check CNR fares. Subtract the worry and fatigue of battling traffic. Add the comforting *certainty* of train travel — whatever the weather — you're on your way, and a rented car, if you wish, will await your arrival at major points.

Next time you travel, go by train. More and more Canadians who are going places, go CNR on such famous "name" trains as the Super Continental, the Continental, the Ocean Limited.

CANADIAN NATIONAL RAILWAYS

(Continued from page VII)

Italian literature of the fourteenth century, and Italian music. And a series of four lectures will be given on the Italian theatre.

Students will have opportunities to visit the main artistic and cultural centres of the district and to attend concerts, plays and special lectures. They will stay in hotels, boarding houses and private homes in Gargnano. Room and board will cost about $2.40 to $3.20 a day. The fee for the courses is $40. Further information may be obtained by writing to Segreteria Corsi Internazionali, University di Milano, Via Festa del Perdono 3, Milan, Italy.

For Travellers in Nova Scotia

The provincial Travel Bureau has issued a useful booklet entitled *Nova Scotia Accommodation 1956*. It contains information about local attractions as well as about the specific facilities offered by each lodge, motel or camp. A new provincial road map is also available now. Another booklet that might be helpful when planning a vacation in the province is *Nova Scotia Camera Tour*, which is attractively illustrated with large coloured plates. These publications may be obtained by writing to the Nova Scotia Travel Bureau, P.O. Box 130, Halifax, Nova Scotia.

Holland Festival

From 15 June to 15 July the Holland Festival will be celebrated in Amsterdam, with some distinguished artists participating. The program includes opera, orchestral music, chamber music, ballet, choir concerts, and at least one play.

An ensemble of La Scala Milan will present the Verdi opera *Falstaff* and the Netherlands Opera Company will present Beethoven's *Fidelio*, Britten's *Peter Grimes*, and Tomasi's *Sampiero Corso* which is to have its world première in Bordeaux this month. Orchestras taking part in the festival include the Czech Philharmonic, the Orchestre Nationale de la Radiodiffusion Belge, and from the Netherlands the Concertgebouw Orchestra, Residentie Orchestra and Radio Philharmonic Orchestra. They will be conducted by Benjamin Britten, Henri Tomasi, Otto Klemperer, Franz André and others. Among the chamber music groups will be the Netherlands Chamber Orchestra directed by Szymon Goldberg, the Netherlands Chamber Choir conducted by Felix de Nobel, and the Amsterdam String Quartet with Cecil Aronowitz. The ballet companies taking part are those of Moscow's Bolshoi Theatre and the Theatre National Populaire of Paris.

Other Dutch communities besides Amsterdam will celebrate the Holland Festival. In Naarden the Netherlands Bach Society, directed by Dr. Anthon van der Horst, will perform sacred music by Bach, and in Gouda the same society will give a Monteverdi-Bach program. In Delft the *Nederlandse Comedie* will give an open-air performance of *Everyman*.

It is worthwhile mentioning that from May until October in the Rijksmuseum at Amsterdam and the Boyman's Museum at Rotterdam there will be special exhibitions of the paintings of Rembrandt. Museums and private collectors from all over the world have co-operated to make this exhibition possible.

Airline News

Several changes in airline services and organizations have been announced in recent weeks. Colonial Airlines is merging with Eastern Airlines, and Pacific Western Airways has acquired ownership of Associated Airways. Guest Airlines are inaugurating direct flights between Windsor, Ontario and Mexico City.

Trans-Canada Air Lines has placed an order for eleven more Vickers Viscount aircraft. This is in addition to the ten scheduled for delivery by March 1957. At present T.C.A. has fifteen Viscounts in operation. When all of those on order are received, the airline will have thirty-six of them.

K.L.M. Royal Dutch Airlines has announced the inclusion of several additional cities in its new summer time table. Among these are Ankara, Turkey; Khartoum, Sudan; Palma de Mallorca, Balearic Isles; and Warsaw, Poland.

Patrons, Fellows and Honorary Members of The Canadian Geographical Society

ALCOCK, Dr. J. F., Ottawa
ALLAN, Hon. James Noble, Toronto
AMBRIDGE, D. W., Toronto
*ANDERSON, Capt. F., Ottawa
*ANDERSON, Dr. R. M., Ottawa
ANDREW, G. C., Vancouver
*ARCHIBALD, Dr. E. S., Ottawa
*ARCHIBALD, Munro, Creston, B.C.
ARMSTRONG, Prof. H. S., Hamilton
ARNASON, B. N., Regina
*ARSENAULT, Hon. A. E., Charlottetown
ASELTINE, Hon. W. M., Ottawa
ASH, W. M. V., Toronto

BAIRD, Lt.-Col. P. D., Aberdeen, Scotland
BALL, Gordon R., Montreal
BANKS, Hon. Chas. A., Vancouver
*BARBEAU, Dr. C. M., Ottawa
BARRETT, O. H., Montreal
BARRETTE, Hon. Antonio, Quebec
BARTON, Dr. G. S. H., Ottawa
BASKINE, Mrs. Gertrude F., Miami, Florida
BATES, Dr. Stewart, Ottawa
BEACH, Dr. H. H., Houston, Texas
*BEAUCHESNE, Dr. Arthur, Ottawa
BEAULIEU, Hon. J. Paul, Quebec
BEDARD, Avila, Quebec
BEGIN, Hon. Jos. D., Quebec
BELL, G. Gordon, Ottawa
BENNETT, Hon. W. A. C., Victoria
BENTLEY, Hon. T. J., Regina
BIRKS, Henry G., Montreal
BLAIS, Hon. Aristide, Hull, P.Q.
BONNER, Hon. R. W., Victoria
BOSTOCK, Dr. H. S., Ottawa
BOURQUE, Hon. J. S., Sherbrooke, P.Q.
BOWEN, Ivor, Ottawa
BOWLEN, Hon. J. J., Edmonton
BOYLE, Dr. Robert W., Ottawa
BRADLEY, F. B., Hamilton
BREITHAUPT, Hon. Louis O., Toronto
BROADBENT, J. S., Victoria
BROCKELBANK, Hon. J. H., Regina
BROCKINGTON, Dr. L. W., Toronto
BROUILLETTE, Dr. Benoit, Montreal
BROWNE, Lt.-Col. P. L., Ottawa
BRUCE, Hon. Herbert A., Toronto
BRUCHESI, Dr. Jean, Quebec
BUCHANAN, D. W., Ottawa
BUCHANAN, Hon. N. B., Fredericton
BUCKHAM, Dr. A. F., Cumberland, B.C.
BURNS, H. D., Toronto
BURTON, C. L., Toronto
BUSSIERE, Eugene, Ottawa

CALEY, Dr. J. F., Ottawa
*CAMERON, Dr. Alne E., Ottawa
*CAMERON, D. Roy, West Vancouver
CAMPBELL, Hon. Douglas, Winnipeg
CAMPBELL, Hon. G. P., Ottawa
CAMPBELL, Hon. Thane A., Charlottetown
CAMPNEY, Hon. Ralph, Ottawa
†*CAMSELL, Dr. Charles, Ottawa
CAMU, Dr. Pierre, Ottawa
CANTLIE, Col. G. S., Montreal
CARMICHAEL, Harry J., St. Catharines
CARTER, H. Dyson, Toronto
CHANT, Hon. W. N., Victoria
CHESSHIRE, R. H., Winnipeg
CHETWYND, Hon. Ralph, Victoria
*CHIPMAN, K. G., Ottawa
CHURCHMAN, J. W., Regina
CLARK, George R., Ottawa
CLARK, Paul, Montreal
CLAXTON, Hon. Brooke, Ottawa
CLEGG, L. H. T., Montreal
CLOUTIER, Edmond, Ottawa
CODERRE, Louis, Quebec
CONNOLLY, Hon. J. J., Ottawa
COOLICAN, D. M., Ottawa
CORKILL, W. H., Ramsgate, England
COUSINS, Dr. E. L., Toronto
*COWAN, Charles G., Ottawa
COYNE, J. E., Ottawa
CRABTREE, Harold, Montreal
CRAWFORD, N. R., Toronto
CREIGHTON, G. W. I., Halifax
CRERAR, Hon. T. A., Ottawa
CROWE, C. D., Toronto
CULLEN, Hon. Eugene, Charlottetown
CUMMING, L. M., Ottawa
CURTIS, Dr. O. H., Charlottetown

DAGENAIS, Dr. Pierre, Montreal
DALLYN, F. A., Toronto
DALLYN, G. M., Ottawa
DANSEREAU, Lt.-Col. J. L., Montreal
DANSEREAU, Dr. Pierre, Montreal
DAVIS, R. H., Welland, Ontario
DeLURY, Dr. Ralph E., Manilla, Ontario
DESAULNIERS, Dr. O. Jules, Quebec
DJERMANOVIC, Dr. Rajko, Ottawa
DOUCET, Jean Louis, Quebec
DOUGLAS, Dr. G. Vibert, Halifax
DOUGLAS, Hon. J. T., Regina
DOUGLAS, Hon. T. C., Regina
DOWNWARD, Brian S., Horsted Keynes, England
DREW, Hon. George, Ottawa
DRURY, C. M., Montreal
DUFRESNE, A. O., Quebec
DUGUID, Col. A. F., Ottawa
DUNBAR, Hon. G. H., Toronto
DUNLOP, Hon. W. J., Toronto

EADIE, T. W., Montreal
EATON, Lady, King, Ontario
*EDWARDS, Col. C. M., Ottawa
*EDWARDS, Lt.-Cdr. C. P., Ottawa
EDWARDS, D. Kemp, Ottawa
*EGAN, W. J., Aylmer, P.Q.
EGGLESTON, Wilfrid, Ottawa
ELIE, Hon. Antonio, La Baie, P.Q.
ELKINS, Maj.-Gen. W. H. P., Kingston
ELSON, M. A., Toronto
ENMAN, H. L., Willowdale, Ontario

FAUTEUX, Hon. Gaspard, Quebec
FERRABEE, F. G., Montreal
FIELDING, P. S., Charlottetown
FINES, Hon. C. M., Regina
FINLAYSON, S. M., Montreal
FLEMMING, Hon. H. J., Fredericton
FOOTE, Hon. J. W., Toronto
FORSYTH, L. A., Montreal
FORTIER, Dr. Yves O., Ottawa
FRASER, J. Keith, Richmond Hill, Ontario
FRASER, Hon. W. A., Ottawa
FREBOLD, Dr. Hans W., Ottawa
FRECKER, Dr. G. A., St. John's, Nfld.
FULLER, J. A., Montreal

GAGNON, Hon. Onesime, Quebec
GAJDA, Dr. R. T., Ottawa
GARDINER, Hon. J. G., Ottawa
GARRATT, P. C., Toronto
GARSON, Hon. Stuart, Ottawa
GILL, E. C., Toronto
GODBOUT, Hon. Adelard, Ottawa
GORDON, Donald, Montreal
GRAHAM, Lt.-Gen. H. D., Ottawa
GRANT, Vice-Admiral H. T. W., Ottawa
*GRANT, J. Fergus, Ottawa
GREEN, Robert M., Oakville, Ontario
*GREENE, K. A., Ottawa
GREENLAY, Hon. Chas. F., Winnipeg
GREGG, Hon. Milton F., Ottawa
GREGOIRE, Dr. Jean, Quebec
GRIESINGER, Hon. Wm., Toronto

HALL, Dr. Edward G., London, Ontario
HAMES, M. F. A., Surbiton, England
**HAMMELL, John E., Oakville, Ontario
HANNAH, Dr. John A., East Lansing, Michigan
**HARDY, Hon. A. C., Brockville, Ontario
HARE, Dr. F. K., Montreal
HARKNESS, Lt.-Col. R. B., Port Rowan, Ontario
HARKNESS, R. D., Montreal
HARRIS, Hon. Walter E., Ottawa
HARRISON, Dr. J. M., Ottawa
HARSTONE, R. G. L., Hamilton
HARVIE, Eric L., Calgary
HAYCOCK, Dr. Maurice H., Ottawa
HAYDEN, Hon. S. A., Toronto
HEARN, Dr. R. L., Toronto
HEENAN, Capt. J. A., Ottawa
HEFFERTON, Hon. S. J., St. John's, Nfld.
HENDERSON, Ernest, Boston, Mass.
HICKS, Hon. Henry D., Halifax
HILDRED, Sir Wm. P., Montreal
HILTON, Conrad N., Beverly Hills, Calif.
HILTON, H. G., Hamilton
HOADLEY, Dr. J. W., Ottawa

HOPKINS, John Jay, Montreal
HORSDAL, Paul, Ottawa
HOUGHTON, Rear Admiral F. L., Ottawa
HOWARD, Hon. Chas. B., Ottawa
HOWE, Rt. Hon. C. D., Ottawa
HRYHORCZUK, Hon. W. N., Winnipeg
*HUME, Dr. G. S., Ottawa
HUMPHREYS, Dr. F. A., Ottawa
HUNT, R. F., Ajax, Ontario
HYDE, James H., New York, N.Y.

IGNATIEFF, A., Ottawa
ISNOR, Hon. Gordon B., Halifax

JACOBS, Prof. J. A., Toronto
JAMES, Dr. F. Cyril, Montreal
JELLETT, R. P., Montreal
JODOIN, Hon. Mariana B., Ottawa
JOLLIFFE, Dr. A. W., Kingston

KEEFLER, Maj.-Gen. E. H., Montreal
KEENLEYSIDE, Dr. H. L., New York, N.Y.
KENNEDY, Maj.-Gen. H. E. R., Ottawa
KIMBLE, Dr. George H. T., Alpine, N.J.
KINDLE, Dr. E. D., Ottawa
KNOX, John, Toronto
KOERNER, Leon J., Palm Springs, Calif.
KREBS, F. W., Cleveland, Ohio.

**LaBINE, Gilbert, Toronto
LAIDLAW, E. J., Toronto
LAMBERT, Hon. Norman P., Ottawa
LANG, A. H., Ottawa
LANK, H. H., Montreal
LAPOINTE, Hon. Hugues, Ottawa
LaZERTE, Dr. M. E., Edmonton
LEATHER, E. H. C., London, England
LECKIE, Air Marshal Robert, Ottawa
LESAGE, Hon. Jean, Ottawa
LESLIE, Lt.-Col. E. M. D., Ottawa
LEVEILLE, Georges, Quebec
LEWIN, H. M. S., Corner Brook, Nfld.
LINDBOE, Sidney R., Hanford, Calif.
LINDSLEY, Thayer, Toronto
LLOYD, Hon. W. S., Regina
LOVE, R. J., Fredericton
LOW, Harry R., Ottawa
*LYNCH, F. C. C., Ottawa

MacDIARMID, Dr. F. E., Fredericton
MacDONALD, Edwin, Winnipeg
*MACDONALD, J. A., Ottawa
MACDONALD, J. K., Toronto
MacDONALD, Rt. Hon. Malcolm, New Delhi, India
MACFARLAN, Allan A., New York, N.Y.
MacFARLANE, Dr. R. O., Ottawa
*MacKAY, Dr. B. R., Ottawa
MACKENZIE, Dr. C. J., Ottawa
MACKENZIE, M. W., Como, P.Q.
MacKENZIE, Dr. N. A. M., Vancouver
MACKERSEY, L. S., Toronto
MacKINNON, Hon. Jas. A., Ottawa
MacKINNON, Norman G., Montreal
MACLACHLAN, Cdr. K. S., Toronto
MACLAREN, A. B., Ottawa
*MACLAREN, Brig.-Gen. C. H., Ottawa
MACLAREN, Gordon F., Ottawa
MacMILLAN, Sir Ernest, Toronto
MacMILLAN, H. R., Vancouver
McARTHUR, Ian S., Ottawa
McCONACHIE, Grant W. G., Vancouver
McCONNELL, John G., Montreal
McCORMACK, W. W., Fredericton
McCULLOCH, Hugh L., Galt, Ontario
McDIARMID, Hon. J. S., Winnipeg
McDONALD, Hon. J. A., Ottawa
McEVOY, Bernard L., Toronto
†McGRATH, Mrs. Arthur, Eleuthera, Bahamas
McGREGOR, G. R., Montreal
McINTOSH, John, Regina
McKEEN, Hon. S. S., Ottawa
McLAGAN, T. R., Montreal
McLAUGHLIN, R. S., Oshawa
**McLEAN, H. F., Merrickville, Ontario
*McLEISH, John, Ottawa
McNAB, Lewis G., Toronto
McNALLY, Dr. G. F., Edmonton
*McNAUGHTON, Gen. the Hon. A. G. L., Ottawa
McNULTY, H. J., Ottawa
MAHEUX, L'abbé Arthur, Quebec
MALTMAN, John B., Sydney, Australia
MANBY, A. W., Toronto
*MANN, Harold Sefton, Athabasca, Alberta
MANNING, Thomas H., Ottawa
MAPLEDORAM, Hon. Clare E., Toronto
MAPPIN, K. G., Montreal
MARLER, Hon. George, Ottawa
MARTIN, Hon. Eric, Victoria
*MARTINDALE, E. S., Ottawa
MASSEY, Lionel, Ottawa

*MASTER, Oliver, Ottawa
MATHER, W. A., Montreal
MATHESON, Hon. A. W., Charlottetown
MATHESON, Miss Jean I., Ottawa
MAWDSLEY, Prof. J. B.,
MAYO, William L., Grosse Pointe, Michigan
*MEEK, Victor, Ottawa
*MEREDITH, Lt.-Col. C. P., Ottawa
MEREDITH, R. B., New York, N.Y.
MERWIN, B. F., Sudbury, Ontario
MILES, Rear Admiral M. E., U.S.N., New York, N.Y.
MILLER, F. R., Ottawa
MILLER, G. L., Fredericton
MOFFATT, Dr. H. P., Halifax
MORDY, A. G., Ottawa
MUIR, James, Montreal
MUNROE, David, MacDonald College, P.Q.
MURDOCH, James Y., Toronto
MURRAY, W. E. G., Toronto

NESBITT, W. Rankine, Toronto
NICHOLSON, Dr. N. L., Ottawa
NICKLE, Hon. W. M., Toronto
NOLLET, Hon. I. C., Regina
*NORRISH, W. H., Ottawa
NOTMAN, J. G., Montreal

*ODELL, R. K., Ottawa
OLAND, Col. S. C., Halifax
OUTERBRIDGE, Col. the Hon. Sir Leonard C., St. John's, Nfld.

PALMER, E., Fredericton
PARKIN, J. H., Ottawa
PATERSON, Hon. N. McL., Ottawa
PATTERSON, Hon. W. J., Regina
PEACOCK, A. E., Moose Jaw, Sask.
PEACOCK, Sir Edward R., Ascot, England
PEARSON, Hon. L. B., Ottawa
*PETERS, F. H., Aylmer East, P.Q.
PHILIP, Percy J., Ottawa
PHILLIPS, Dr. C. E., Toronto
PICKERSGILL, Hon. J. W., Ottawa
PLEVA, Prof. E. G., London, Ontario
POWELL, F. E., Montreal
POYNTZ, A. R., Toronto
PRATT, Hon. Calvert C., Ottawa
PREST, Dr. V. K., Ottawa
PREVOST, Hon. Yves, Quebec
PRUDHAM, Hon. George, Ottawa
PUTNAM, Dr. D. F., Toronto

QUINN, Dr. Harold A., Ottawa

RAHILLY, T. F., Montreal
RAYMOND, Hon. D., Montreal
RICHARDSON, B. T., Toronto
RIDDELL, R. A., Hamilton
RILEY, C. S., Winnipeg
RIVARD, Hon. Antoine, Quebec
ROBBINS, Dr. J. E., Ottawa
ROBERTSON, John S., Toronto
ROBERTSON, N. A., London, England
ROBERTSON, R. Gordon, Ottawa
ROBERTSON, Hon. W. McL., Ottawa
ROBINSON, Dr. J. Lewis, Vancouver
ROBINSON, Dr. S. C., Ottawa
RODD, J. A., Ottawa
ROGGE, H. H., Hamilton
ROW, E. C., Windsor
ROWLEY, Dr. H. J., Fredericton
*RUSSELL, Chas. E., Ottawa
RYAN, Leo E., Montreal

ST. LAURENT, Rt. Hon. Louis S., Ottawa
SALE, R. M., Toronto
SANDS, W. H., Victoria
SAVAGE, C. H., Montreal
SCHULTZ, Hon. Ivan, Winnipeg
SCULLY, V. W. T., Hamilton
SEITZ, Joseph L., Toronto
SELLAR, Watson, Ottawa
SHAW, Dr. L. W., Charlottetown
SHEFFIELD, E. F., Ottawa
SHERMAN, F. A., Hamilton
SIMARD, Joseph, Montreal
SIMPSON, Dr. G. W., Saskatoon
SINCLAIR, Hon. James, Ottawa
SLEMON, Air Marshal C. R., Ottawa
SMITH, Dr. C. E., Montreal
SMITH, Dr. Sidney, Toronto
**SNYDER, Col. Harry, Calgary
SPRY, Maj.-Gen. D. C., London, England
SPRY, Graham, London, England
STACEY, Col. C. P., Ottawa
STAGER, J. K., Edinburgh, Scotland
STAINER, Rev. John, Parksville, B.C.
STAMBAUGH, Hon. J. W., Bruce, Alberta
STEAD, Robert J. C., Ottawa
STEFANSSON, Vilhjalmur, Hanover, N.H.
STEMBRIDGE, Prof. Jasper, Taunton, England

STEPHENS, D. M., Winnipeg
STERNBERG, C. M., Ottawa
STEWART, Dr. Andrew, Edmonton
STEWART, James, Toronto
STORMS, Brig. D. H., Toronto
STUART, Hon. R. Douglas, Ottawa
STURDY, Hon. J. H., Regina
**SWEEZEY, R. O., Montreal
SWIFT, Dr. Wm. H., Edmonton

TAYLOR, E. M., Fredericton
TAYLOR, E. P., Toronto
THACKRAY, C. C., Montreal
THOMAS, Hon. F. S., Toronto
THOMAS, Lowell, Pawling, N.Y.
THOMPSON, Dr. J. F., New York, N.Y.
TIMM, Dr. W. B., Westmeath, Ontario
TIMMINS, J. R., Montreal
TOOMBS, Morley P., Saskatoon
TRUEMAN, Dr. A. W., Ottawa
TRUEMAN, H. L., Ottawa
TURGEON, Hon. J. G., Ottawa
TURNER, Maj.-Gen. G. R., Ottawa
*TYRRELL, Dr. J. B., Toronto

VAILLANCOURT, Hon. C., Levis, P.Q.
*VIEN, Hon. Thomas, Montreal

WALKER, G. A., Montreal
WALKER, John F., Victoria
WALSH, Sir Albert J., St. John's, Nfld.
WALTERS, C. S., Toronto
WASHBURN, Dr. A. L., Hanover, N.H.
WASHBURN, Dr. Bradford, Boston, Mass.
WATSON, Dr. J. W., Edinburgh, Scotland
WHITE, J. R., Toronto
WICKS, Hon. Lyle, Victoria
WILLIAMS, Dr. M. Y., Vancouver
WILLISTON, Hon. E. G., Victoria
WILLMORE, Hon. N. A., Edmonton
WILSON, Dr. Alice E., Ottawa
WILSON, Hon. Cairine R., Ottawa
WILSON, Prof. J. T., Toronto
WINGATE, Henry S., New York, N.Y.
WINTERS, Hon. Robert H., Ottawa
WOOD, Edward C., Montreal
WOOD, Hon. T. H., Ottawa
WOOD, W. Gordon, Montreal
WOODING, F. H., Ottawa
WRIGHT, Dr. J. F., Ottawa
WRIGHT, Jim F. C., Saskatoon

YOUNG, Maj.-Gen. H. A., Ottawa

ZIMMERMAN, A. H., Ottawa

** Patron. * Foundation Member. † Honorary Member.

THE CANADIAN GEOGRAPHICAL SOCIETY

ANNUAL GENERAL MEETING

The twenty-seventh Annual General Meeting of The Canadian Geographical Society was held on 13 March 1956 in the Lecture Hall, National Museum of Canada, Ottawa. The President, General H. A. Young, presided over the meeting.

After approval of the minutes of the twenty-sixth Annual General Meeting, General Young reported on the activities of the Society during 1955.

The year 1955 was an exceptionally active one, he said. In all, 495,000 copies of reprint booklets were produced for government departments and industrial companies for distribution. Of the sixteen different booklets published, three were in French. In the case of one of the English booklets, *Telephone Service Across Canada*, 200,000 copies were distributed through education channels for use in schools from coast to coast. During the year more than 1,300 sets of *Geographical Aspects*, the Society's ten booklets about the provinces, were sold.

The President announced that the book *Image of Canada*, illustrated with photographs selected from the Society's *Journal* and published by The Ryerson Press, was about to go into its third edition. He commented that the book continued to be in demand as a gift, particularly by "new" Canadians, many of whom bought it to send to relatives in their homelands. A special mark of recognition for the book had been its selection by the Boy Scouts Association for presentation to Scouts from foreign countries who attended the World Jamboree at Niagara Falls in the summer of 1955.

General Young reminded the members that at the last Annual Meeting Air Marshal Leckie had reported an improvement in the Society's financial position over the previous two years. He said that a further surplus from the year's operations had been recorded in 1955. However, although the improvement in financial standing was encouraging, there were difficulties of operation as a result of inadequate working capital. To correct this situation and permit resumption and extension of services which had proved valuable, including the practice of granting scholarships, the Board of Directors had decided to invite the people of Canada to participate in actively supporting the following motion passed at its quarterly meeting on 15 February 1956:

> "That the Canadian Geographical Society engage in an extension fund campaign to raise the sum of $500,000; that a maximum of $50,000 of whatever sum is raised be reserved for working capital, the remainder to be invested and the proceeds thereof, both capital and income, to be used for the extension of the Society's objects and activities in such manner as the Board of Directors may from time to time determine."

The President said that the membership of the Society now stood at 11,250, an increase of 692 since De-

(*Continued from page XII*)

cember 1954. The Directors, however, felt that Canada had reached a period of development that called for increasing membership to 30,000 if the Society was to keep pace with its responsibilities.

During 1955 many statesmen, educationists, industrialists and others had been recognized for their contribution to national development by election to Fellowship in the Society. Altogether the Society now had 387 Fellows and was greatly strengthened by their support. The President particularly expressed the gratitude of the Society to its Fellows and Associates for the cooperation and active assistance generously given by so many of them. He concluded his report by reading the following message from the Society's Honorary Patron, His Excellency the Right Honourable Vincent Massey, Governor-General of Canada:

"As Patron of the Canadian Geographical Society, I wish to commend the work of this organization which has now served the community for more than a quarter of a century.

"There is no country in which the subject of geography is more important than it is in Canada. The formation of the Society was in recognition of this fact, and since the beginning, this body has played a striking and essential part in our national life. It has encouraged the establishment of departments of geography in our Universities, promoted the study of geography in our schools and through its publications has helped to inform Canadians of their resources and industries.

"The monthly organ of the Society — the 'Canadian Geographical Journal' — performs very ably two functions. It presents the Canadian scene to the general reader; it also provides material for experts in its field.

"The Society and its Journal — which is sent to all members — have done much for Canada, but its membership is still relatively small. Far more could be done with an increase in numbers, and I appeal to my fellow-Canadians to help in the achievement of this objective, which would mean much to Canada."

VINCENT MASSEY

In the absence of the Honorary Treasurer, Mr. A. G. Mordy, his report was read by Mr. E. S. Martindale. General McNaughton then submitted the report of the Nominating Committee. Nine former Directors were re-elected and Dr. Pierre Dansereau of Montreal was elected for a three-year term.

It was announced by the President that the Board of Directors would meet in the Lecture Hall following the General Meeting. The President then introduced the speaker, Dr. Leonard W. Brockington, Rector of Queen's University and President and Director of the J. Arthur Rank Organization of Canada Limited. Dr. Brockington, he said, was a man who had many outstanding achievements to his credit, and a rich and varied experience. He had had a distinguished career in law; he had been the first chairman of the Canadian Broadcasting Corporation; he had been special wartime assistant to the Prime Minister of Canada and advisor on Commonwealth Affairs to the British Minister of Information, and had held other important and significant posts. Although Canada was his adopted country — Dr. Brockington having emigrated here in 1912 — he knew Canada and its Arctic and sub-Arctic as few Canadians knew them.

Dr. Brockington then gave his address, which was rich in allusions and ranged widely over the field of geography, and included special tribute to the services performed by The Canadian Geographical Society. The address was recorded by the Canadian Broadcasting Corporation, and was broadcast over the national network later the same evening.

Dr. Arthur Beauchesne thanked the speaker warmly for an eloquent address, remarking that his well balanced exposition and harmonious language always gave pleasure. He believed that Canada owed much to

brains from the British Isles and that there had been no better contributor than Dr. Brockington. Dr. Beauchesne remarked that although there were many different ways of speaking English, there was only one English language and that was the one known by Dr. Brockington in all its etymologies and shades.

Immediately after the General Meeting a meeting of the Board of Directors was held. Officers were elected and Standing Committees appointed for 1956.

* * *

AMONGST THE NEW BOOKS

Engineers are Building the World
Ingenieure bauen die Welt

by Karl Kruger

(Safari-Verlag, Berlin, $4.75)

This comprehensive book by the distinguished professor at the School of Engineering, Berlin, is highly interesting. Although it is written with typical German thoroughness, it is very clear without being too scholarly. No one familiar with the German language should miss it.

The book deals with one of the most important problems of our civilization today, one that has received the attention of the United Nations, namely the increase in world population, necessitating increased food production and the cultivation of new agricultural land.

As an engineer, the author examines existing possibilities and gives examples of large-scale projects which are being carried out today in all continents. The main features of such projects are discussed in detail, such as the water supply for newly cultivated land, forestry and its importance from the point of view of water conservation (afforestation experiments in mountain, prairie, and desert regions), highway engineering and railroad construction both relative to climatic conditions, the supply of power, and also city planning. Problems of economy and world trade are also discussed. The very extensive addendum gives the most important geographical data required for world-wide engineering projects. An index facilitates rapid location of particular subjects. In addition to a techno-geographical map of the world, the book contains a large number of small maps and diagrams. It is also well illustrated with many excellent photographs and drawings.

H. A. G. NATHAN

Man's Emerging Mind

by N. J. Berrill

(Dodd, Mead & Company, Toronto, $4.50)

Years ago, Aldous Huxley's First Philosopher sang plaintively that mind is

. . . "still umbilical to earth,

Earth its home and earth its tomb," and not the least merit of a book like the one before us is an affirmation that the relation is not pitiable, but inspiring to contemplate. In the sense that geography can be regarded as a logical extension of cosmology, a still further extension will bring us to the human mind. Dr. Berrill is keenly aware of the evolutionary continuum, and his writing is infused with its spirit. The theme, of course, is not novel. The post-Darwin era has witnessed many treatments of it, with varying degrees of success, by scientists and popularizers. In the earlier decades the approach was apt to be mainly defensive, because the belief that man's mind—or, for that matter, any part of the animal and vegetable kingdoms—had ever done any emerging was widely held to be impious. Those were the days when Edmund Gosse's father could write a book to demonstrate that "God hid the fossils in the rocks in order to tempt geologists into infidelity". In our own century a more positive approach came into vogue to fascinate the reader with the unfolding drama of life from primeval slime to the supermarket. Its great Cham was Wells, whose highly readable prose flowed easily between the line-drawings of behemoths in the coal swamps and Neanderthal man looking uffish. Except in children's books, illustrations have fallen from favour, and none is to be found in the present volume; this is not felt to be a deficiency, however, for the author's concern is with something more than the superficialities of the record of the rocks and the ruins. He is concerned, in short, not merely with *what* changes have taken place in man's life on earth, but *why* they took place.

Take, for example, the important matter of the transition of our ancestors from patriarchal forest dwellers to wandering plainsmen. To hunt on the savannah a man had not only to be swift but an intelligent tactician; moreover, he could no longer afford the time to collect and protect a harem, so he had to learn to make do with monogamy. To be clever and to be a member of a small amicable family unit—we should be hard put to pinpoint a more signifi-

(*Continued on page XVI*)

Royal Bank Manager Picks Up Pointers on Steel Making

High up on the catwalk of one of the Commonwealth's largest blast furnaces, the Royal Bank manager (left) absorbs the sights and sounds of a great Canadian steel works.

Here, away from his desk, the steel business becomes more than tables of tonnages, pages of financial statistics. Here he learns to talk the steel-man's language — and to be a better banker.

For nowadays he must know a lot about a lot of businesses. He uses this knowledge every day in handling a wide variety of banking matters with customers in many different industries.

The Royal Bank manager in your area does the same sort of thing, has the same practical, first-hand knowledge of modern production and business. Is it time you had a talk with him?

THE ROYAL BANK OF CANADA

A big bank serving a big country

MORE FINE
CANADIAN PRINTING
APPEARS ON

Provincial Papers

THAN ON ANY
OTHER KIND...

Provincial Paper Limited
TORONTO, MONTREAL, WINNIPEG

Our Centennial Year

ALBERT COLLEGE

Founded 1857

Courses Offered

High School up to and including Grade XIII or University Entrance ● Secretarial Course ● Business Administration and Commerce Course ● Dramatic Art, Piano, Vocal and Cultural Courses ● Swimming, Life Saving and all Physical Recreation.

CO-EDUCATIONAL

THE MANOR
for Girls & Young Women

THE MANORETTE
for Junior Girls

GRAHAM HALL
for Young Men

BAKER HOUSE
for Boys

For complete information and illustrated prospectus, please write to:

Rev. A. E. MacKenzie, B.A., Principal
ALBERT COLLEGE, BELLEVILLE, ONTARIO, CANADA

(Continued from page XIV)

cant requirement of civilization as we know it. Take, again, the vastly different topic of urn burial, on which a matchless essay, written 300 years ago, is likely long to remain a model. But Sir Thomas Browne's interest was strictly thanatological; he did not dwell on the subject of pottery. Yet, as Dr. Berrill remarks, cremation, potting, and urn burial almost certainly arrived together in intimate relation. The first pots must have been "objects of the greatest admiration and value. What could be more fitting in every way than to reduce the dead body to its charred remains, easing the escape of the living spirit, putting the compact residue in the most beautiful man-made creation yet to appear, and burying the neat package in the earth?"

Man's Emerging Mind is rich in odd and occasionally provocative tidbits of man's development. Man (*sic*), for Dr. Berrill is disinclined to credit woman with much in this line—from lack, he hastens to add, of opportunity rather than of talent and ingenuity. Woman has always been preoccupied with domestic chores. One of them used to be the fashioning of the family pots, but when her man magnanimously took on this particular job, at once he began to think of labour-saving devices, and soon invented the wheel. Hence, after a while, Detroit and the pink convertible. An engrossing thesis.

Dr. Berrill can re-illumine a familiar theme and surprise with an unfamiliar connexion or a fresh viewpoint. He has to tell of bone carving, of the prehistory of guided missiles, of the linkage of speech with grass, of the curious mammalian distinction shared by only man and bat, of the crime of dephosphorization, of what is to be learnt from the Hopi, of the phenomenon of sitting, of why we splash on falling from a height, and of the varves of the Green River of Wyoming and Colorado that make up a 6,000,000-year Eocene calendar. Failing access to Dr. Wonmug's time machine, we cannot more easily or more entertainingly explore some pages of this calendar, and of many subsequent ones, than by reading Dr. Berrill's pages.

N. T. GRIDGEMAN

* * *

Two Thousand Fathoms Down

by Georges Houot and Pierre Willm

(Hamish Hamilton, Toronto, $4.00)

This is the story of an important achievement in the history of geographical exploration—how Lieutenant Commander Houot of the French Navy, forbidden by his doctors to enter water because of poliomyelitis, and Engineer Lieutenant Willm just out of training school, descended to a depth of two and one-half miles, the greatest ever attained by living men. Their bathyscaphe, or "deep boat", is essentially a large iron pressure-resistant observation sphere hung beneath a submarine-shaped float filled with buoyant petrol and ballasted with steel shot. The depth and rate of vertical movement of this underwater dirigible is controlled by altering the effective volume of the float and by the release of ballast.

The story commences in 1951 at the French naval base in Toulon where a joint Franco-Belgian scientific group, undaunted by previous failures, undertook to build a third submersible research vessel. Quite fortuitously Houot and Willm became chief technicians of the project. After two years of careful workmanship and attention to technical problems the strange undersea craft finally took shape. Then came the tests, painstaking and monotonous, but highly rewarding to the planners. The ship floated well, responded to its controls, the searchlights and outside gear worked satisfactorily, and the two-man crew could live safely within the sphere. Three shallow-water dives, assisted by frogmen, showed up minor leaks and flaws, particularly in the wiring and electrical insulation. The work progressed, despite frustrations and even a hint of sabotage, thanks mainly to elaborate safety precautions. The adventurous pair undertook successively deeper dives, undismayed by frequent breakdowns of equipment, and finally reached a depth of 2,100 metres.

The vessel was transferred formally to the French Navy, overhauled, and fitted with photographic equipment, propellers, and special mechanisms for operating on the sea floor. During further tests the failure of an electric level gauge at 600 metres put their courage to the stiffest test, but they coolly surfaced the ship—and lived. During a 1,200-metre descent into a marine canyon off Toulon the authors photographed fishes, siphonophores, squids, sharks, and strange creatures on the sea bottom, but were forced to surface prematurely because of an electrical short-circuit.

The bathyscaphe was shipped to Dakar, subjected to further test dives, and then towed into the open Atlantic for a successful unmanned dive to 4,100 metres. Following a brief trip ashore to convince the Paris authorities of their full confidence in the machine, the authors made their historic

(Continued on next page)

(*Continued from previous page*)
descent to the bottom at 4,050 metres. Houot describes two further dives accompanied by a scientist who accurately recorded and photographed the deep-sea fauna. The story is concluded with a brief account of further research dives in 1954 in which improved equipment was used. An illustrated technical account of the machine by Willm is appended.

The story is a simple, straightforward account, by a sailor and an engineer, of the technical problems that had to be overcome in testing a new and revolutionary scientific instrument. The reader may be disappointed by the lack of imaginative style; indeed, the best descriptive sections on underseas phenomena have been borrowed from Carson's *The Sea Around Us* and Beebe's *Half A Mile Down*. However, the factual data have been served up appetizingly enough, with typical French skill in such matters. Houot tells of the early submersible vessels, of the various solutions to the twin problems of breathing and resisting pressure underwater, and of man's determination to fathom the mysterious medium of his origin. Willm, in a surprisingly similar style but with a different viewpoint, writes feelingly of their experiences, and how their determination paid off in the highly successful bathyscaphe. The title, giving depth in fathoms, cleverly connotes a romantical sea tale, but the context ably illustrates the superiority of the metric system in underseas research. The photographic plates and illustrations add greatly to the readability of this book.

E. L. BOUSFIELD

* * *

World Sea Fisheries

by Robert Morgan

(Methuen and Company, London, $7.00)

Although the seas cover two-thirds of our planet and poets have sung and novelists written about it for centuries, there has been very little general interest shown in this vast area. This has been particularly true of the sea as a pasture and a storehouse for food. Until Rachel Carson published her unusually successful book *The Sea Around Us* there was no serious work on this important subject that could be called both scholarly and popular in treatment of the subject.

Since Miss Carson's book appeared there have been a number of books dealing with the seas, both geographically and as a storehouse for food. *The Inexhaustible Sea*, *The Sun, the Sea and Tomorrow*, and the present work are among these. None of the later works have captured the magic of *The Sea Around Us*, but all are useful and fairly authoritative works in a little known field.

The author of *World Sea Fisheries* has tried to give a popular account and stress the present and future importance of the fishery resource in a world where the food supply is becoming an increasingly critical subject. He has shown great courage in this undertaking. In the introduction he states "Sea fisheries have an immense extent and variety." This appears to be more true than even the author realizes. Sea fisheries have been seriously studied from a world perspective for only a decade and the potential productivity is as yet almost unknown. This leaves only present catch figures, largely as compiled by the Food and Agriculture Organization of the United Nations, to report on. These do not make exciting reading.

The book is divided into three sections. *Section I, The Physical Environment*, describes how all life in the sea is ultimately dependent on the sun's energy and dissolved nutrient salts. This is compared to similar processes on land. The review of fishery production is based mostly upon F.A.O. information. The classification of commercial sea-fish given is unnecessary and inadequate for the scientist and appears meaningless to the lay reader—i.e., Class Selachii (fish with cartilaginous skeletons. Also known as Chondrichthyes). *Section II, Techniques and Their World Distribution*, deals with fishing techniques and craft and how their design reflects a response to area and kinds of fish caught (demersal or pelagic) and so on. *Section III, Fisheries of the World's Regions*. This provocative title leads to disappointment. Production statistics reviewed are principally from government and F.A.O. sources. F.A.O.'s 1951-2 *Yearbook of Fishery Statistics* is the main source. More recent statistics (and more complete and more readily extracted) are already available, namely F.A.O.'s 1952-3 *Yearbook of Fishery Statistics*, as is noted by the author on page 160.

The last chapter *Changing Aspects of Fisheries* ends with the very true but unexciting comment, "The seas are still by no means fully used. The true assessment of their possibilities can only be found by actual development."

The book, though a useful compilation of some facts, will not in this reviewer's opinion appreciably increase either public information or interest in this important subject.

J. L. KASK